INSTALLATION & OPERATION MANUAL

MPEG-4 IP Dome Camera

Before trying to connect or operate this product, please read this manual completely

(NTSC)

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SAFETY PRECAUTIONS

All the following safety and operational instructions to prevent harm or injury to the operator(s) or other persons should be read carefully before the unit is activated.

WARNING

- To prevent fire or shock hazard, avoid exposing this unit to rain or moisture.
- Do not block ventilation openings.
- Do not place anything on top of the unit that might spill or fall into it.
- Do not attempt to service this unit yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Please refer all servicing to your distributor / retailer.
- Do not use liquid cleaners or aerosols for cleaning.
- To prevent fire or electric shock, do not overload wall outlets or extension cord.
- This unit must be grounded to reduce the risk of electric shocks.

1. PRODUCT FEATURES

1.1 Product Instructions

This IP dome camera is vandal-proof and yet easily installable on walls and ceilings in indoor location. Its image data can be seen by users via the Internet.

Our dome camera supports many different and specialized functions. Users can with the help of the Internet easily change or modify the settings. This camera is dual-mode and operates MPEG4 or MJPEG video compressions. You can also conveniently adjust the camera's direction angles any way you want by simple manual manipulation.

The Armor Dome is high-impact and specially coated reinforced polycarbonate. The base is die-cast, of ultra-hard grade aluminum with a painted finish.

The camera supports the UPnP protocol which enables a user to easily change settings automatically: just plug the camera to your PC and you'll see a pop-up window containing the IP information.

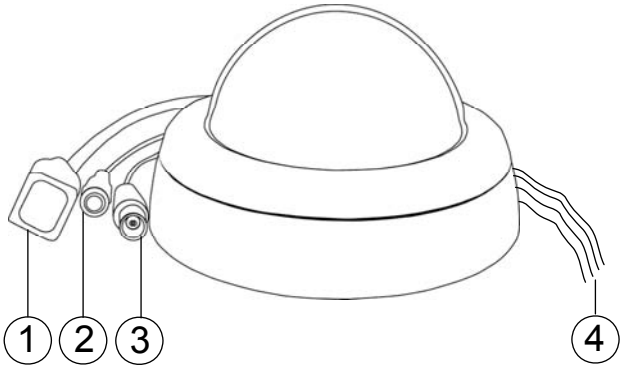
Additionally, the camera comes with free 16-channnel surveillance software for this IP dome. This software enables you to access and operate more application functions in your PC.

1.2 Product Features

- 1/3" SONY CCD.
- 520 (High-resolution)TV line resolution.
- Board lens 3.6 mm.
- Network surveillance.
- Remote camera settings via network.
- Hi-impact reinforced polycarbonate Armor Dome withstand a blow 10-pound sledgehammer.
- Reinforced polycarbonate with special coating on surface.
- Max. Load 500 KG deformation without crack.
- Ultra hard grade aluminum with painting finish.
- MJPEG / MPEG4 video compression.
- Flexible motion detection. (fine adjustments of settings such as sensitivity and areas)
- Intelligent backlight compensation.
- Mirror function.
- Privacy masking. (up to 3 rectangular masks of arbitrary size can be set)
- USB interface for basic network setup.

2. DESCRIPTION OF THE DEVICE

2.1 The Surface



1. **ETHERNET 10/100 Connector:**

   This is a standard RJ-45 connector for 10/100 Mbps Ethernet networks.

2. **Plug Inlet:**

   A DC 12V inlet that connects to an external power supply.

3. **VIDEO OUT Connector:**

   The connector provides the unit's composite video signals to a monitor.

4. **ALARM I/O:**

   Red: Alarm In

   Green: Alarm Reset

   Black: Ground

   Yellow: Alarm Out

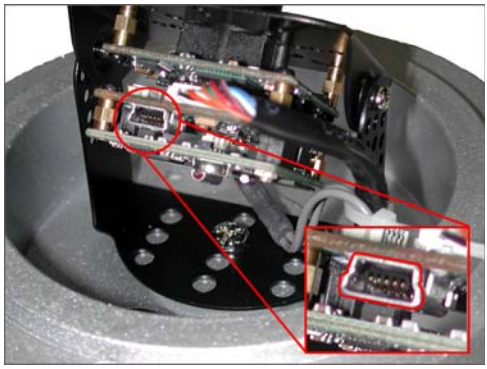
RETURN TO DEFAULT:

Inside the camera dome, on one side of the PCB board under the lens, is the RESET button. Click it to return to the factory default settings
(see the picture ←).

2.2 The USB function

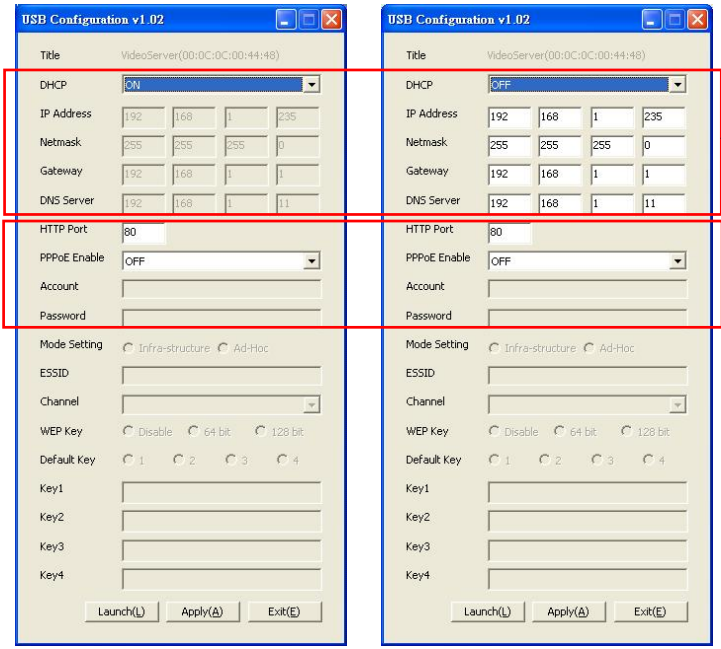
I. Using the USB port

Before using the USB function, the user has to remove the cover of the dome. **1)** Loosen the screws holding the camera mount and then **2)** carefully lift the cover up. **3)** The USB port is in the rear of the lens (see the picture →).



II. Connecting with a PC

By connecting the IP Camera with a PC via the USB connector, the USB Configuration window will show up automatically on the PC screen as below.



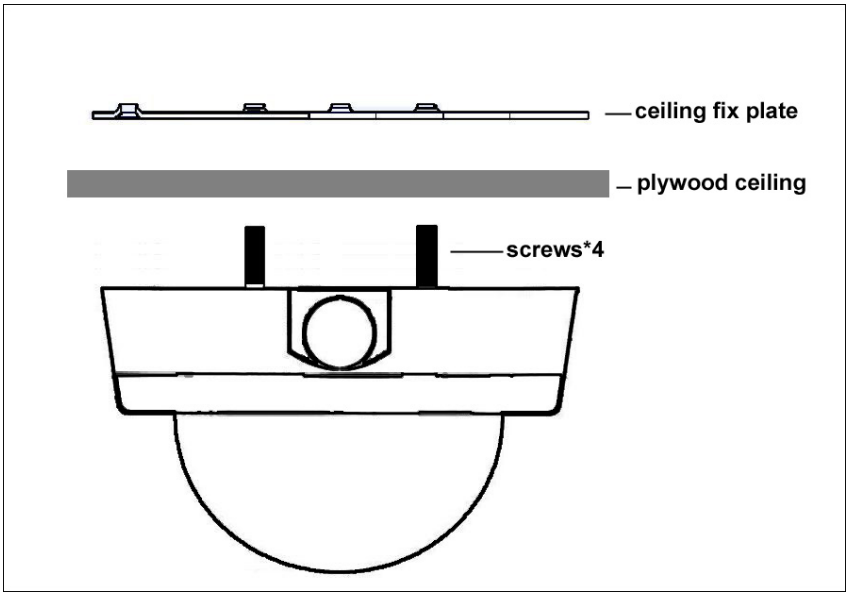
DHCP ON **DHCP OFF**

NOTE: You can click the "**Launch**" button to link to the home page of the device.

WARNING: After changing the settings, please click the "Apply" button. All of the options will be effective after removing the USB connector.

2.3 Ceiling mounting

When mounting the camera in the plywood ceiling, please follow steps (1) to (3).



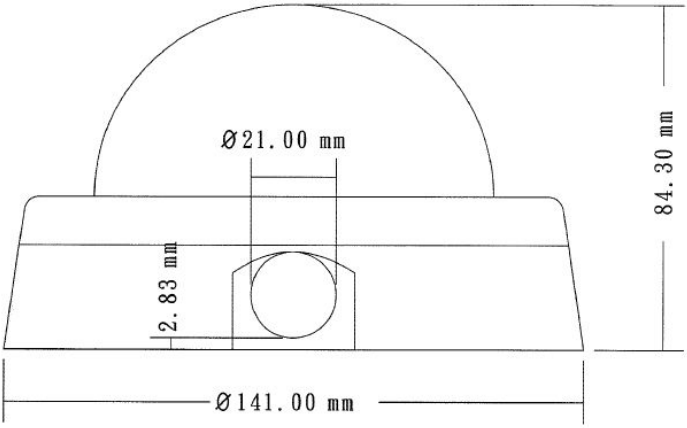
(1) Make 4 entry holes in the plywood ceiling as shown above.

(2) Install the dome in the ceiling, then attach the supplied “ceiling fix plate” to the camera.

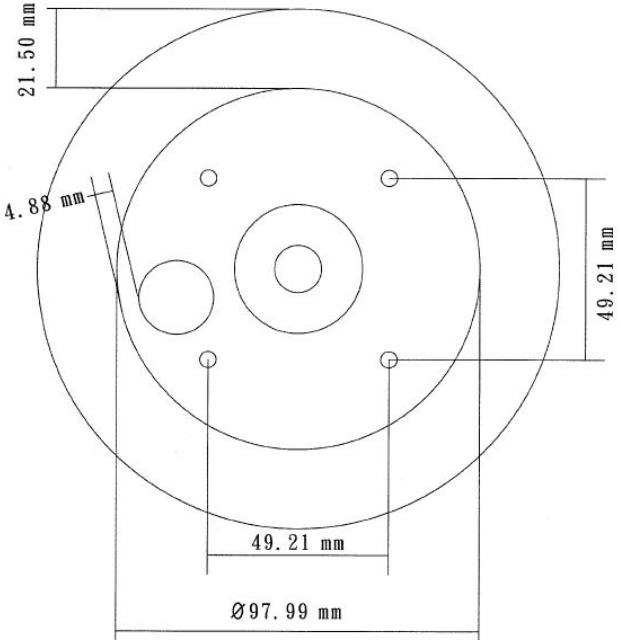
(3) Fix the dome to the ceiling using the 4 mounting screws.

2.4 The dimensions

The dome:



The vertical view:



3. Network Configuration

3.1 Cable Connections

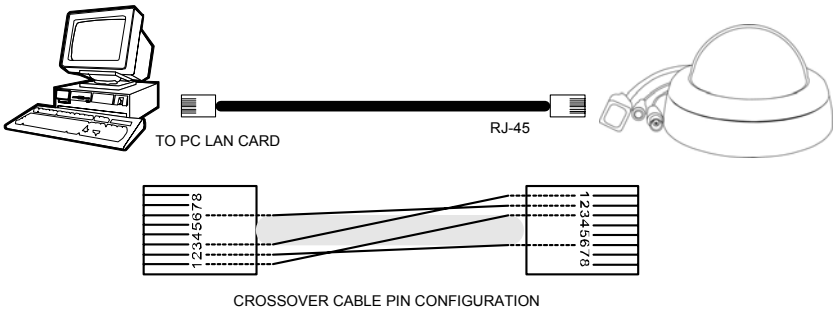
Please follow the instructions below to connect your IP Camera to a computer or a network and to choose a proper RJ-45 cable configuration for connections.

Physical specifications of the RJ-45 cable for Ethernet

Wire Type	Cat. 5
Connector Type	RJ-45
Max. Cable Length	100 m
Hub Wiring Configuration	Straight through or Cross Over
PC Wiring Configuration	Straight through or Cross Over

3.1.1 Connect to a computer

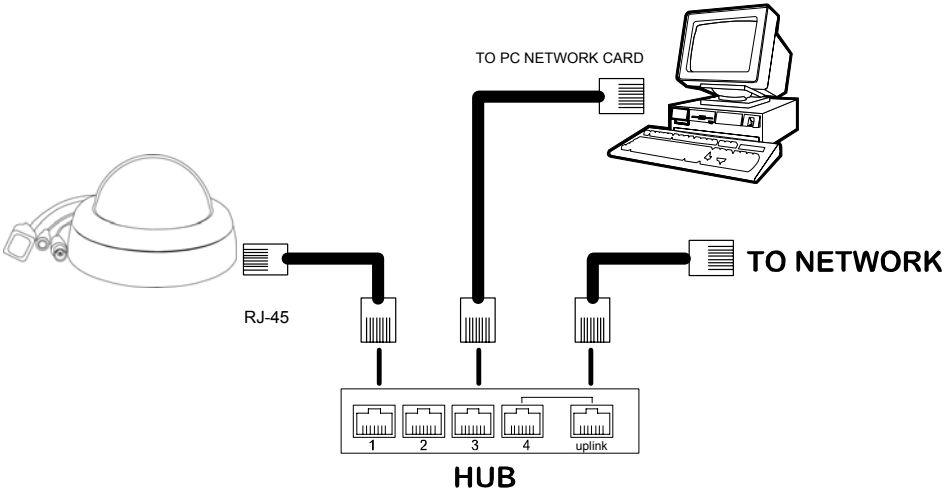
Use a straight LAN cable to connect directly to a computer.



CROSSOVER CABLE PIN CONFIGURATION

3.1.2 Connect to a LAN Hub (INTRANET)

The RJ-45 PIN configuration for connecting with a LAN Hub is shown below.



3.2 Configure Your IP Camera Network Settings

Upon connecting with the network hardware, you need to activate the network function and configure the proper network settings of the IP Camera.

3.2.1 Enable DHCP Function

This function can only work if the LAN, which the unit is connected to, has a DHCP server. If the DHCP server is working, please connect with the LAN directly; now the IP Camera will obtain an IP address automatically from the DHCP server. In that case, please skip section 3.2.2 (Set IP address) and follow section 3.3 (TCP/IP Communication Software).

NOTE: If the LAN has no DHCP server, the camera's IP address will be assigned of the default 192.168.1.168 after 3 minutes or the unit will request it's last assigned IP address after 3 minutes.

3.2.2 Set IP Address

You need to set an IP address for the unit if the LAN unit isn't connected to a DHCP server. Otherwise, please follow the instructions given below:

Set the **IP**, **MASK** and **GATEWAY**. The following is a sample setting.

IP: 192.168.1.X

MASK: 255.255.255.0

GATEWAY: 0.0.0.0

NOTE: When only one unit of the IP Camera is connected to a computer or LAN, you can freely assign an IP address for the IP Camera. For example, there is a range of IP Camera IP addresses from 192.168.1.1 to 192.168.1.255. You can pick one for use from the range of the IP. It's not necessary to set MASK and GATEWAY; leave the settings as default.

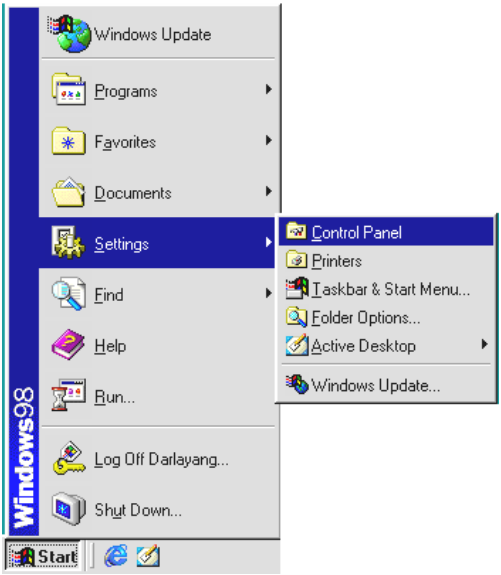
When an IP Camera is connected to a WAN, you must acquire a unique, permanent IP address and correctly configure the MASK and GATEWAY settings according to your network architecture. If you have any questions regarding those settings, please consult a qualified MIS professional or your ISP.

NOTE: When connecting to a network, each connected IP Camera must be assigned a unique IP, which must be in the same class type as your network address. IP addresses are written as four sets of numbers separated by periods; for example, 192.168.1.1 Therefore, if the connected network is identified as Class C, for example, the first three sets of numbers of the IP Camera IP address must be the same as the network address. If the connected network is identified as Class B, the first two sets of numbers of the IP Camera IP address must be the same as the network address. If you have any questions regarding these settings, please consult a qualified MIS professional or your ISP.

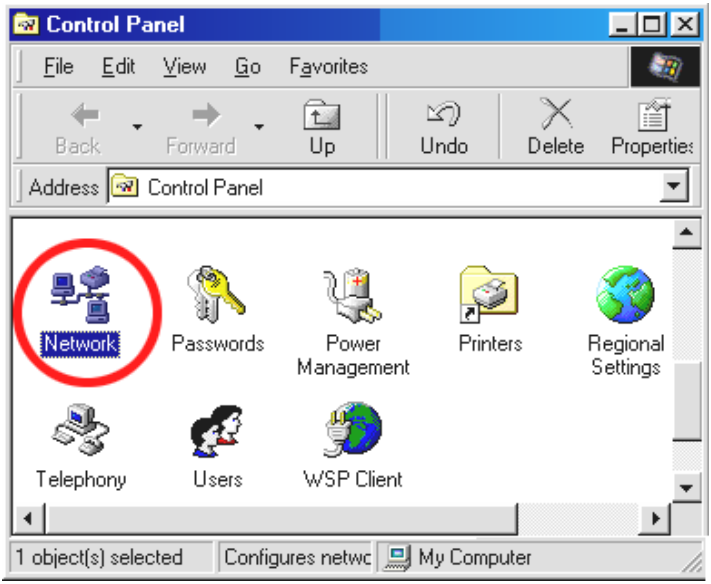
3.3 TCP/IP Communication Software

Follow the procedure below to install the TCP/IP communication program in your computer.

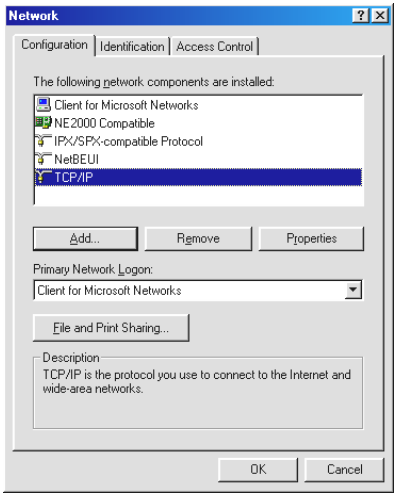
Click the **Start** menu from your computer, and point to the **Settings/Control Panel.**



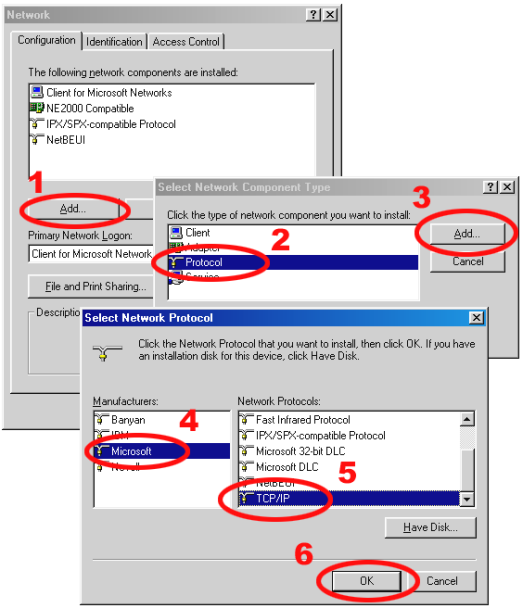
Double click the **Network** icon to enter the windows.



Click the **Configuration** tag, and check if the TCP/IP is included among the network components list. If the TCP/IP is included, please process section 4.5. If it is not included, please follow section 4.4 to install the TCP/IP.



3.4 TCP/IP Installation



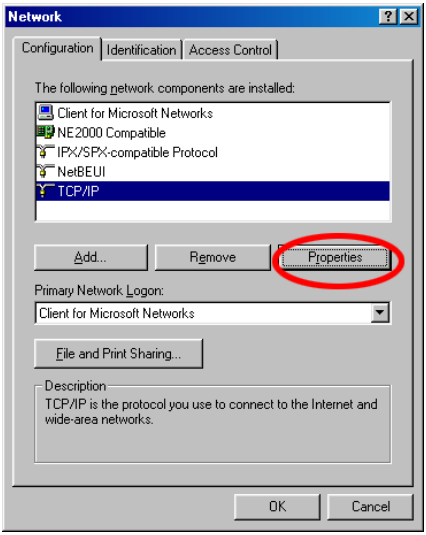
During the installation, you will be requested to insert the Windows CD-ROM. After installation, the PC may be restarted.

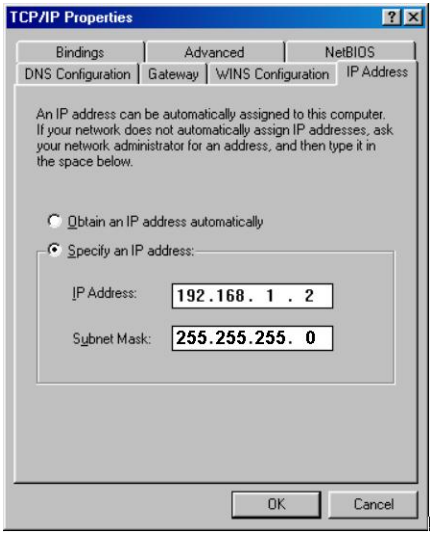
3.5 TCP/IP configuration setting

Click Start → Settings → Control Panel → Network.

Select TCP/IP**, and then click** Properties.

Before processing the IP Camera installation in a WAN, please make sure the Internet connection works properly. If not, please contact your ISP provider.





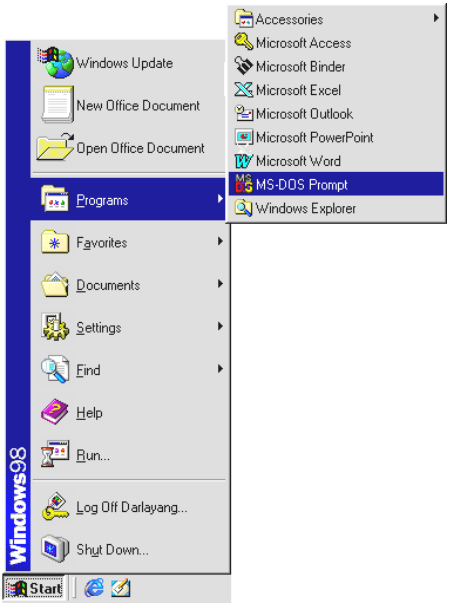
If you are using a DHCP server, please select **Obtain an IP address automatically**. Any assigned IP address for the connected IP Cameras must be in the same class type as the server. If there is no DHCP server, please select **specify an IP address** and type in the IP address of your PC. This IP address must be different from other network IP devices but in the same class type.

NOTE: The IP address of an IP Camera in a network must be unique to itself as opposed to those of the other chosen PCs, but in the same class type.

3.6 Connection Testing

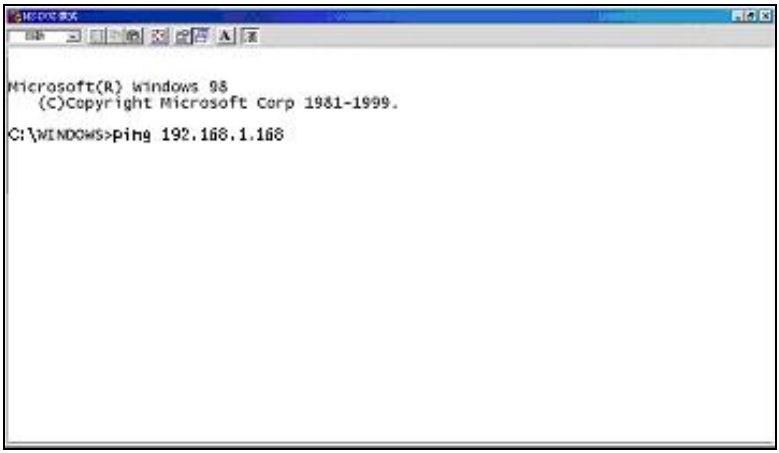
With the previous settings, follow the instructions below to ensure whether you have established the connection successfully.

Click **Start → Programs → MS-DOS Prompt**

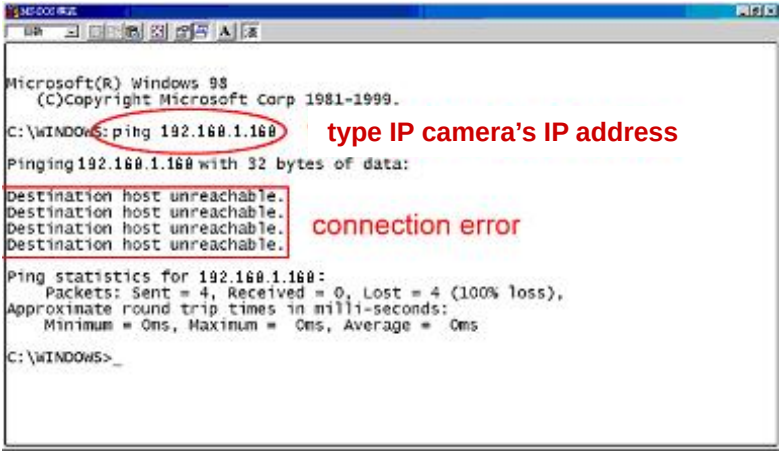


Type in **ping 192.168.1.168,** then enter. (See the sample screen below).

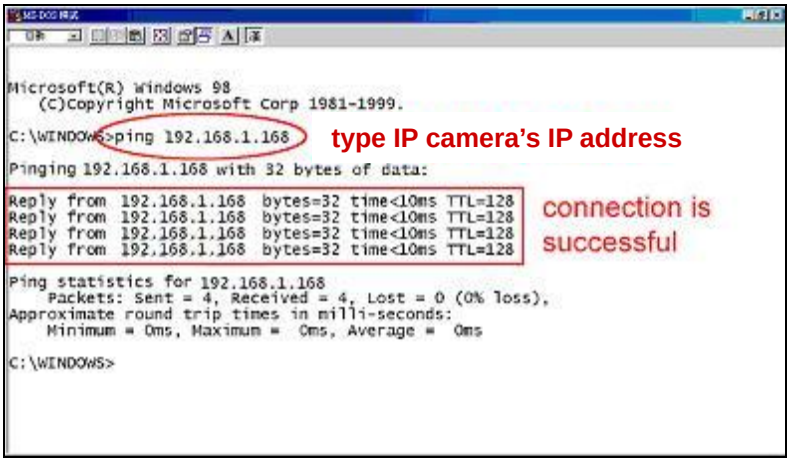
** *This IP is the IP Camera IP address that is assigned for the connected IP Camera in step2.*



If you receive a response as in the sample screen below, the connection hasn't been successfully established. Please re-check all the hardware and software installations by repeating steps 1 to 5. If you still can't establish the connection after rechecking, please contact your dealer.


Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.
C:\WINDOWS:ping 192.168.1.168
type IP camera's IP address
Pinging 192.168.1.168 with 32 bytes of data:
Destination host unreachable.
Destination host unreachable.
Destination host unreachable.
Destination host unreachable.
connection error
Ping statistics for 192.168.1.168:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\WINDOWS>_

If you receive a response as in the sample screen below, you have successfully made the connection.


Microsoft(R) Windows 98
(C)Copyright Microsoft Corp 1981-1999.
C:\WINDOWS>ping 192.168.1.168
type IP camera's IP address
Pinging 192.168.1.168 with 32 bytes of data:
Reply from 192.168.1.168 bytes=32 time<10ms TTL=128
Reply from 192.168.1.168 bytes=32 time<10ms TTL=128
Reply from 192.168.1.168 bytes=32 time<10ms TTL=128
Reply from 192.168.1.168 bytes=32 time<10ms TTL=128
connection is successful
Ping statistics for 192.168.1.168
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\WINDOWS>

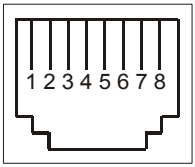
4. Operating Instructions for Image Software and Network

Two choices of software are available for linking with the IP Camera: (1) the Microsoft Internet Explorer; and (2) the IP Camera VIEWER, a network browser in a PC which provides the functions of monitoring remote zones or watching recorded data through the TCP/IP protocol. The details are listed as follows.

RJ-45 PIN configuration for Ethernet

PIN NO.	PIN Assignment
1.	TX +
2.	TX -
3.	RX +
4.	Not Connected
5.	Not Connected
6.	RX -
7.	Not Connected
8.	Not Connected

RJ-45 socket



Physical specification for Ethernet

Wire type	Cat. 5
Connector type	RJ-45
Max. cable length	100 m
Hub wiring configuration	Straight Through or Cross Over
PC wiring configuration	Straight Through or Cross Over

4.1 Microsoft Internet Explorer

4.1.1 Connecting the IP Camera

1. Start up the Microsoft Internet Explorer, and then follow the steps below to connect the IP Camera.
2. Click the URL block at the top of the window.
3. Enter the URL address of the IP Camera into the URL block and press the "**Enter**" button to enter the home page.
4. Scroll to the bottom of the page, with its four icons, "Image", "Network", "System" and "Application". Whichever you click, the page headlined "Enter Network Password" will appear.
5. Type in the "User Name" and "Password" in the appropriate spaces.
6. Click the "**OK**" button to set your entries, and automatically exit the page.

NOTE: The default "User Name" and "Password" are admin and 9999 respectively.

NOTE: The page headlined "Enter Network Password" is shown below. Please enter the user name and password of the IP Camera when you see it. If either the user name or the password is incorrect, please check the input data and rectify it if necessary.

NOTE: Once authorized successfully, it will not appear again until you close the window and reconnect it.

NOTE: The initial sequence of proceeding is to type in your IP address and click the "**Enter**" button to access the home page. If and when you revise or change data in the "**SYSTEM USERS**" page, the sequence will alter to initially show the "**Enter Network Password**" page.

Browsing images from the IP Camera

The images from the IP Camera will be displayed on the home page while going online with the IP Camera. Some buttons of the home page are provided for further setting. In MJPEG mode or in MPEG4 mode, there are different display formats of its home page.

Homepage of MJPEG mode **Homepage of MPEG4 mode**

- Click the **Image** button to enter the image-setting page.
- Click the **Network** button to enter the network-setting page.
- Click the **System** button to enter the system-setting page.
- Click the **Application** button to enter the application-setting page.
- Click the 11/10/2005 14:31:37 button to change the time/date display mode.
- Click the button to switch high/low speed network.
- Click the button to archive AVI videos into your PC. Click once again to deactivate. The AVI file will be saved in the path of c:\ .
- **Digital zoom** function: Click the left mouse button on the video display area, and it will show the zoom-in images. Double click the left mouse button to see the maximum size. Click the right mouse button on the video display area, and it will show the zoom-out images. Double click the right mouse button to come back to the normal size.

4.1.2 Change Image Setting

Please follow the steps below to change the image setting through the network if necessary.

1. Click the **Image** button on the home page to enter the image-setting page.

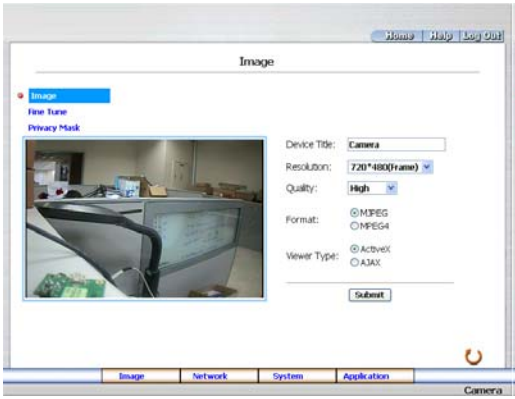


Image setting page of MJPEG mode

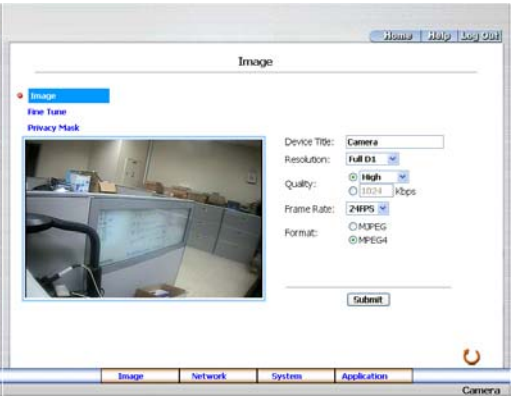


Image setting page of MPEG4 mode

2. Adjust the image setting including “Device Title”, “Resolution”, “Quality”, “Frame rate” (MPEG4 mode only), “Format”, and “Viewer Type” (MJPEG mode only) if necessary.
3. Click the **Submit** button to submit the new image setting.
4. Click the **Fine Tune** button to enter the Image Fine Tune page to set the details of the device including: “White Balance”, “Flickerless”, “Mirror”, “High Speed”, “Shutter“, “Brightness”, “BLC Mode”, ”Backlight”, “Brightness”, “Contrast”, “Hue” and “Saturation”. Click the **Default** button to reset all the settings.

NOTE: The revised image will appear immediately after any change in made.

5. Click the **Privacy Mask** button to enter the Privacy Mask page.

Home
Help
Log Out
Privacy Mask
Image
Fine Tune
Privacy Mask
Privacy mask:mask 3 privacy area (s) on video.
Click the right mouse button on the video control to show the popmenu.
Press the left mouse button , drag and drop to set the privacy area.
Each privacy area can be enabled or disabled.
After you finish all privacy mask settings, click the right mouse button,and select the "Save setting" on the popmenu.
Image
Network
System
Application
Camera

6. Click the **Home** button to return to the home page while the new image setting acts on the images to effect the desired changes instantly. (If the setting has not been changed by the above steps, any (re)entry onto the home page will find images in their earlier or original setting.)

Exchange the image format

1. Tick on one of the formats then press the **Submit** button.
2. The IP Camera will restart automatically after several seconds.

Description of function keys:

MPEG4 mode:

Device Title: Type in the camera title in the given space.

Resolution: Scroll to choose the image resolution from “VGA” or “QVGA”.

Quality: Scroll to choose the image quality out of a spectrum of qualities ranging from “highest”, ”high”, “medium”, and “low” to “lowest”. In MPEG4 mode, you can also set the quality by typing in the value. The custom quality value must be in the range between 64 Kbps to 8192 Kbps.

Frame rate: Click the drop-down list to choose the frame rates of “15FPS”, “24FPS” or “30FPS”.

Format: Click to choose the “MJPEG” or the “MPEG4” mode.

Fine Tune mode

Brightness: Enter your desired quality of image brightness from a spectrum of 0 to 255.

Saturation: Type in the saturation level in the blank (0 to 255).

MJPEG mode:

Viewer type: Click to choose the viewer type of the “ActiveX” or “AJAX” mode.

Submit: Click to submit the new image setting to the IP Camera.

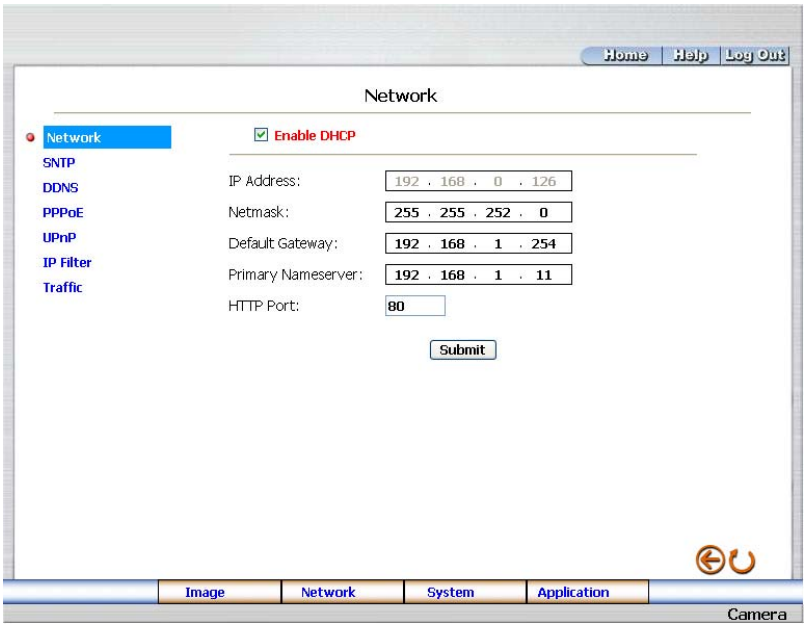
Default: Click this button to install the default settings in all the entries for image parameters on this page.

4.1.3 Change the Network Setting

Please follow the steps below to change the network setting through the network if necessary.

- *Set the network options and IP address.*

1. Click the **Network** button in the home page to enter the Network page.



2. Click “Enable DHCP” to checkmark the attached box and activate the function.
3. The accessible networks here are the “SNTP”, “DDNS”, “PPPoE”, ”UPnP”, “IP Filter” and the ”Traffic”.
4. Fill in the “IP Address”, “Netmask”, “Default Gateway”, “Primary Nameserver”, and “HTTP Port” if necessary.
5. Click the **Submit** button to submit the new network setting.
6. Click the **Home** button to return to the home page.

Description of function keys:

IP Address: Enter the 4-byte IP Address in the appropriate blank space (the value in each box may be anywhere between 0 and 255). Every IP Camera has to own an IP address to be identified on the network.

Netmask: Fill in the 4-byte Subnet Mask in the required blank spaces (usually any numbers between 0 and 255). It is used to identify the subnet where the IP Camera is sited.

Default Gateway: Type in the 4-byte Gateway in the relevant blank spaces (each unit value must be between 0 and 255).

Primary Nameserver: Enter the 4-byte DNS Server Address in the blank spaces provided (each value unit must be between 0 and 255). The DNS Server is in charge of translating the Domain Name into the IP Address.

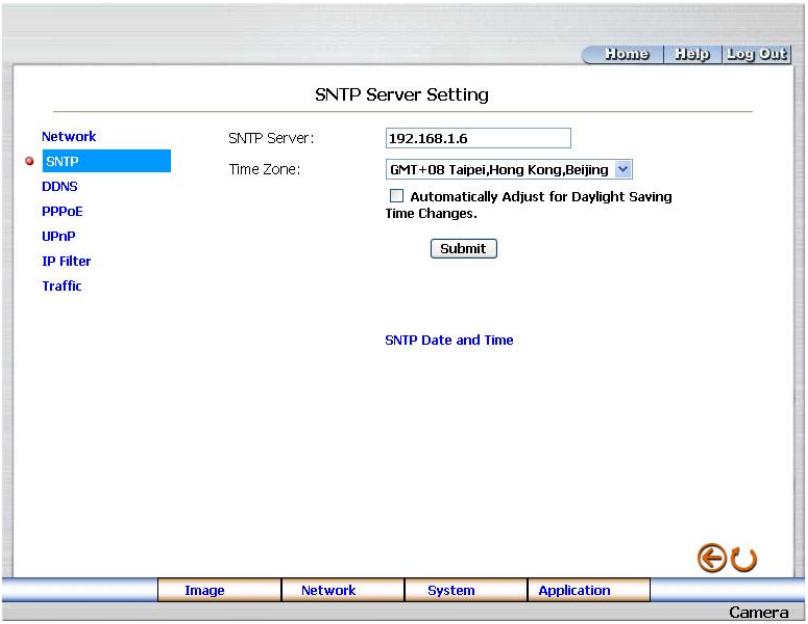
HTTP Port: Indicates the specific HTTP Port Number. The default is 80.

Submit: Click to submit the new network setting to the IP Camera.

- *Change the Network Setting — SNTP.*

Please follow the steps below to change the SNTP setting through the network if necessary.

1. Click the **SNTP** button at upper left above to enter the “SNTP Server Setting” page.



2. Enter the IP Address of the SNTP server, and choose one of the time zones as and when necessary.
3. Click “Automatically Adjust for Daylight Saving Time Changes” to checkmark the attached box and activate the function.
4. Click the **Submit** button to submit the new SNTP setting.
5. Click the **Home** button to return to the home page.

Description of function keys:

SNTP Server: Enter the SNTP server DOMAIN NAME in the blank space provided.

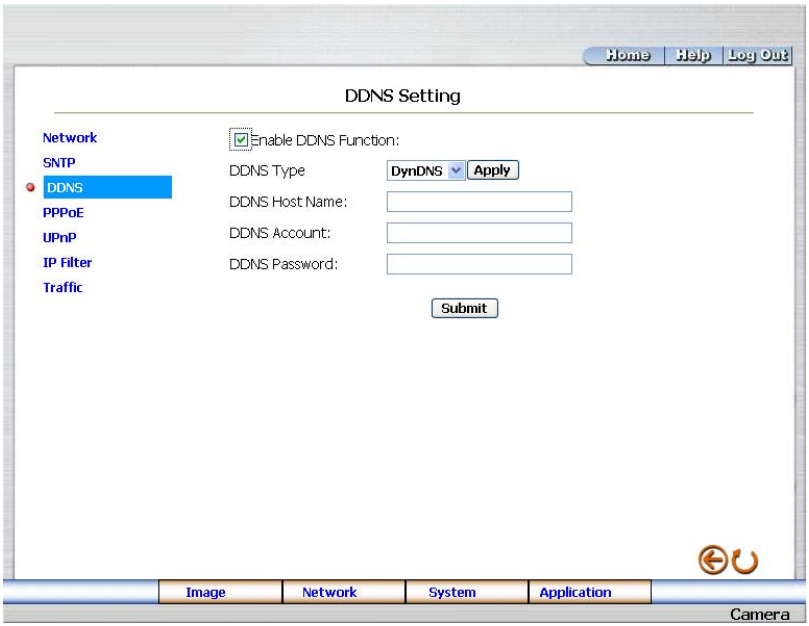
Time Zone: As we know, the globe is divided into various time zones. The user must enter his/her time zone. If this is not done, the time given by the unit may be incorrect.

Submit: Click to submit the new SNTP setting to the IP Camera.

- *Change the Network Setting — DDNS.*

The “Network” page has, on its upper left, the “DDNS” icon. Please follow the steps below to change the DDNS setting through the network if necessary.

1. Click the **DDNS** button at upper left above to enter the “DDNS Setting” page.



2. Click “Enable DDNS Function” to checkmark the attached box and activate the function.
3. Click ”DDNS Type” to open the list of two DDNS modes to choose from: “DynDNS” and “hn”. Click the “Apply” button and connect their website automatically and visit it. Type in your dynamic IP Address and Email Address. If they are accepted by the website, you will get an Email containing your DDNS Account and DDNS Password in your Email box.
4. Type in the “DDNS Host Name”, the “DDNS Account” and the “DDNS Password”.
5. Click the **Submit** button to submit the new setting.
6. Click the **Home** button to return to the home page.

NOTE: Please refer to section 5.1.6 (PPPoE & DDNS) for more details.

Description of function keys:

Enable DDNS Function: Checkmark to activate the function.

DDNS Type: Click to open the list of two DDNS modes to choose from: “DynDNS” and “hn”. Click the “Apply” button and connect this website automatically and enter it. Type in your dynamic IP Address and Email Address. If they are accepted by the website, you will get an Email containing your DDNS Account and DDNS Password in your Email box.

DDNS Host Name: Type in your host name in the attached space.

DDNS Account: Enter it in the given space.

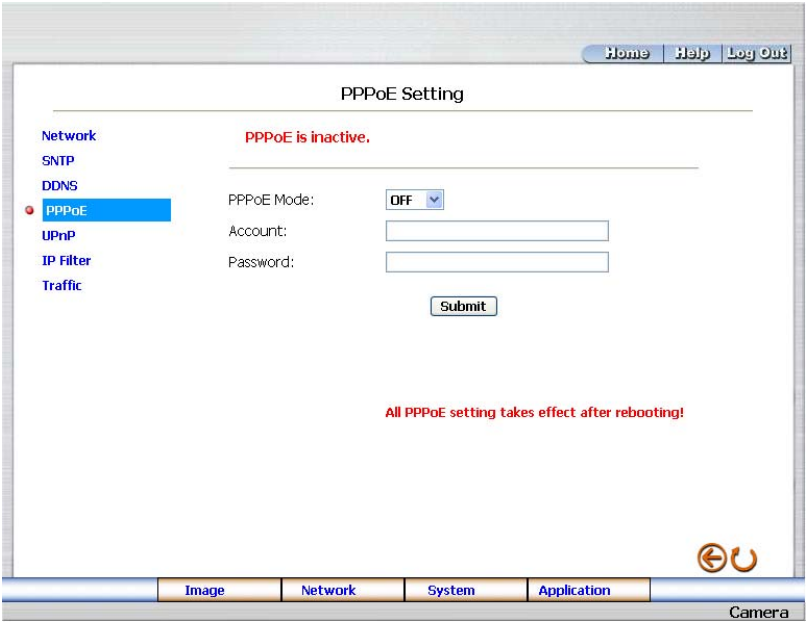
DDNS Password: Enter it in the required space.

Submit: Click to set.

- *Change the Network Setting — PPPoE.*

The “Network” page has, on its upper left, the “PPPoE” icon. Please follow the steps below to change the PPPoE setting through the network if necessary.

1. Click the **PPPoE** button at upper left above to enter the “PPPoE Setting” page.



2. Click the “PPPoE mode” to activate the function.
3. Type in the PPPoE “Account” and the PPPoE “Password”.
4. Click the **Submit** button to submit the new setting.
5. Click the **Home** button to return to the home page.

   NOTE: Please refer to section 5.1.6 (PPPoE & DDNS) for more details.

Description of function keys:

PPPoE mode: Click your choices to enable the PPPoE function.

Account: Enter it in the given space.

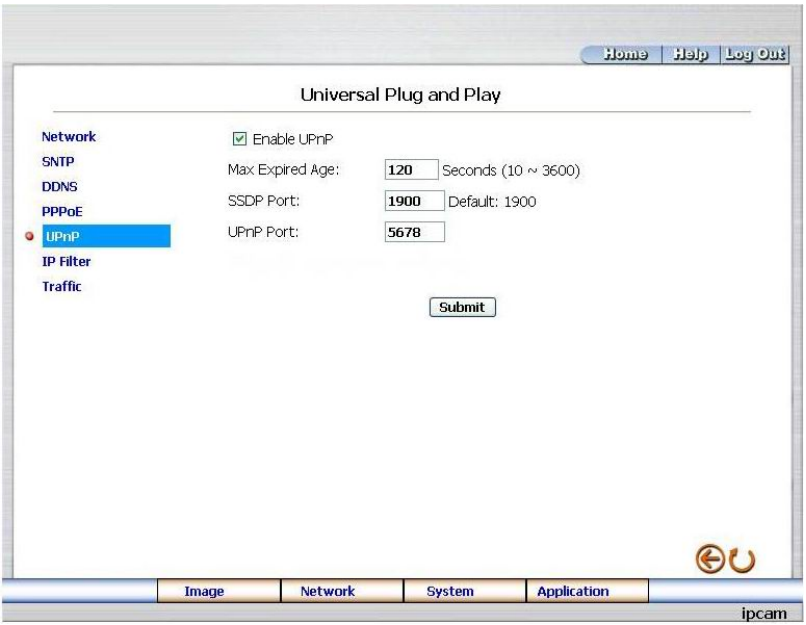
Password: Enter it in the required space.

Submit: Click to set.

- *Change the Network Setting —UPnP.*

The “Network” page has, on its upper left, the “UPnP” icon. Please follow the steps below to change the UPnP setting through the network if necessary.

1. Click the **UPnP** button at upper left above to enter the “Universal Plug and Play” page.



2. Click “Enable UPnP” to checkmark the attached box and activate the function.
3. Type in the UPnP “Max Expired Age”, the “SSDP Port” and the “UPnP Port”.
4. Click the **Submit** button to submit the new setting.
5. Click the **Home** button to return to the home page.

Description of function keys:

Max Expired Age: Enter it in the given space from a range of 10~3600.

SSDP Port: SSDP stands for Simple Service Discovery Protocol. SSDP searches for upstream Internet gateways using UDP port 1900.

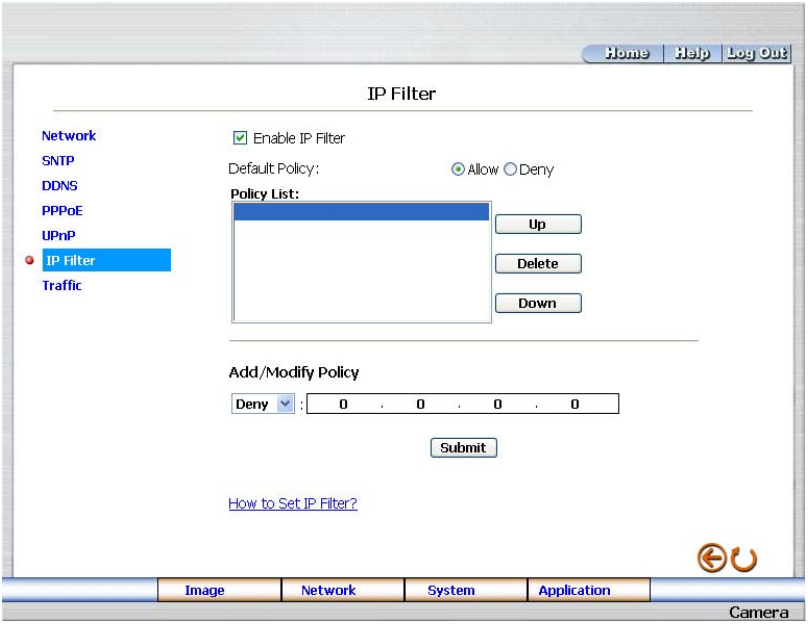
UPnP Port: Type in the UPnP Port in the attached space.

Submit: Click to set.

- *Change the Network Setting — IP Filter*

The “Network” page has, on its upper left, the “IP Filter” icon. Please follow the steps below to change the IP Filter setting through the network if necessary.

1. Click the **IP Filter** button at upper left above to enter the “Network Setting” page.



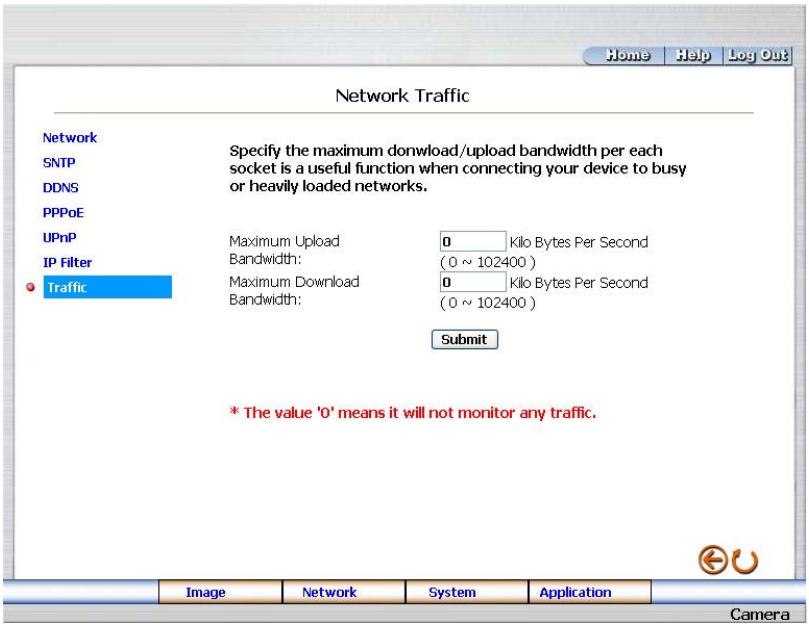
2. Click “Enable IP Filter” to checkmark the attached box and activate the function.
3. Select the Default policy.
4. Set the Allow/Deny IP Filter policy and enter its IP address.
5. After setting the policies, they will be shown on the **Policy List**. The user can use the “**Up**” or “**Down**” to select a policy and use the “**Delete**” button to erase it.
6. Click the **Submit** button to submit the new setting.
7. Click the **Home** button to return to the home page.

Note: The settings of the IP Filter must be correct or you may not able to operate the device regularly. In case of the wrong setting of the IP Filter and you can’t access the device normally, please press the “**Default**” button on the rear panel of the IP camera for back to the factory default setting.

- *Change the Network Setting —Network Traffic.*

The “Network” page has, on its upper left, the “Traffic” icon. Please follow the steps below to change the Network Traffic setting through the network if necessary.

1. Click the **Traffic** button at upper left above to enter the “Network Traffic” page.



2. Type in the “Maximum Upload Bandwidth” and the “Maximum Download Bandwidth”.
3. Click the **Submit** button to submit the new setting.
4. Click the **Home** button to return to the home page.

Description of function keys:

Maximum Upload Bandwidth: Enter it in the given space from a range of 0 to 102400.

Maximum Download Bandwidth: Enter it in the required space from a range of 0 to 102400.

Submit: Click to set.

4.1.4 Change the System Setting

Please follow the steps below to change the date and time of the system setting through the network if necessary.

- *Set the Date and Time of the system*

1. Click the **System** button in the home page to enter the “Date And Time” page (default).

2. Choose one of the three modes shown on the page to set the Date and Time of the system. The three modes are “Set Manually”, “Synchronize With Computer Time”, and “Synchronize With SNTP Server”.
3. Click the **Submit** button to submit the new Date and Time settings.
4. Click the **Home** button to return to the home page.

Description of function keys:

The Local Time: Shows the current date and time of the Network camera.

Set Manually: Manually sets the date and time of the Network camera.

Synchronize With Computer Time: Synchronizes with the linking computer.

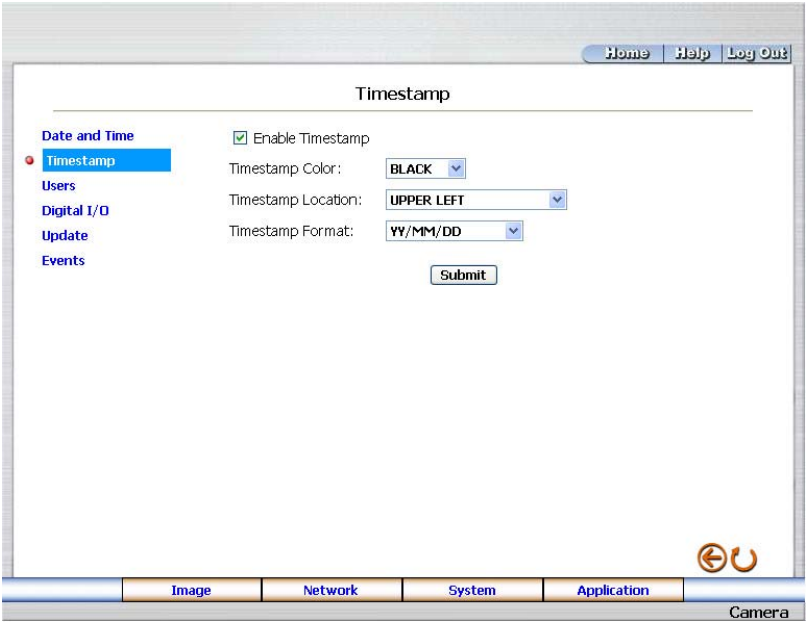
Synchronize With SNTP Server: Synchronizes with the SNTP server. In this mode, two choices of adjusting are provided: doing it manually or setting the frequency to enable the system to do it automatically.

Submit: Click to submit the new setting to the Network camera.

- *Change the System Setting — Timestamp.*

Please follow the steps below to change/add the timestamp through the network if necessary.

1. Click the **Timestamp** button on the left side of the “System - Date and Time” page to enter the “Timestamp” page.



2. Click “**Enable Timestamp**” to checkmark the attached box and activate the function
3. Add or modify any timestamp’s data if necessary.
4. Enter the "Timestamp Color" you have chosen.
5. Enter the "Timestamp Location" you have chosen.
6. Enter the "Timestamp Format" you have chosen.
7. Click the **Submit** button to submit the new user’s setting.
8. Click the **Home** button to return to the home page.

Description of function keys:

Enable Timestamp: Checkmark to activate the function.

Timestamp Color: Click to open the list of eight color modes to choose from: “BLACK”, “WHITE”, “RED”, “ORANGE”, “YELLOW”, “GREEN”, “BLUE”, and “PURPLE”.

Timestamp Location: Click to open the list of four location modes to choose from: “UPPER LEFT”, “UPPER RIGHT”, “BOTTOM LEFT”, and “BOTTOM RIGHT”.

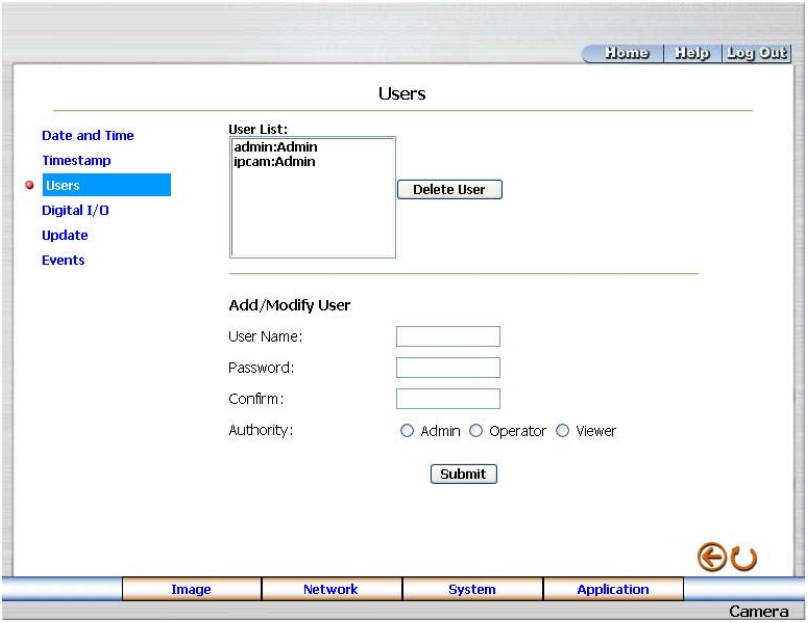
Timestamp Format: Click to open the list of six format modes to choose from: “YY/MM/DD”, “MM/DD/YY”, “DD/MM/YY”, “YY/MM/DD TITLE”, “MM/DD/YY TITLE”, and “DD/MM/YY TITLE”.

Submit: Click to set.

- *Change the System Setting — Users.*

Please follow the steps below to change/add the users' authority through the network if necessary.

1. Click the **Users** button on the left side of the "Date and Time" page to enter the "Users" page.



2. Add, modify or delete any user's data if necessary.
3. Click the **Submit** button to submit the new user's settings.
4. Click the **Home** button to return to the home page.

Description of function keys:

User List: The list shows the registered user(s) and the corresponding authority.

Delete: Deletes a selected user.

Name: Enter the user's name, which will be added or modified.

Password: Enter the new password of the user's name above.

Confirm: Type in the password again for verification.

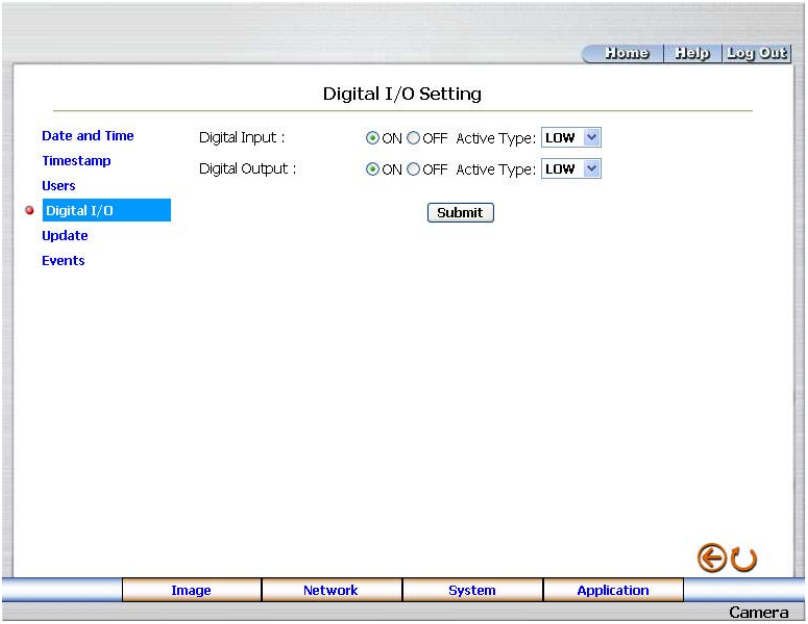
Authority: Choose an authority option of the user's name from: Admin, Operator, and Viewer.

Submit: Click to submit the new setting to the Network camera.

- *Change the System Setting — Digital I/O.*

Please follow the steps below to change the Digital I/O through the network if necessary.

1. Click the **Digital I/O** button on the left side of the “Date and Time” page to enter the “Digital I/O Setting” page.



2. Mark the “Digital Input” “ON” or “OFF” and the “Digital Output” “ON” or “OFF”. Click your choices to enable.
3. Click the **Submit** button to submit the new user’s settings.
4. Click the **Home** button to return to the home page.

Description of function keys:

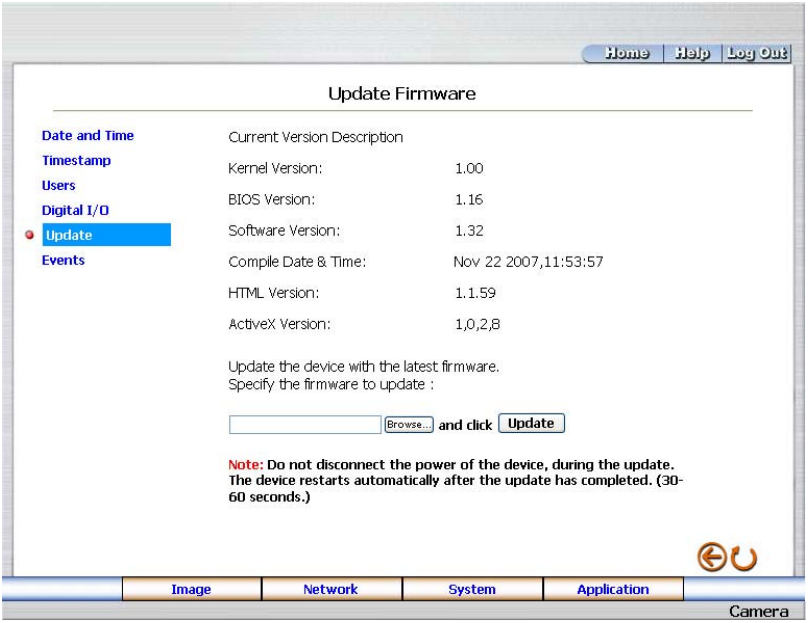
Digital Input: Select “ON” or “OFF” to use the GPIO connector or shut it down.

Digital Output: Select “ON” or “OFF” to use the GPIO connector or deactivate it.

- *Change the System Setting — Update Firmware.*

Please follow the steps below to update the firmware through the network if necessary.

1. Click the **Update Firmware** button on the left side of the “Date and Time” page to enter the “Update Firmware” page.



2. Click the “Browse…” button to select the UPDATE.BIN file which was copied into your computer.
3. Click the “Update” button.
4. DO NOT power off the Network camera while this update process is running.

Note: Don’t interrupt the process while the unit is updating itself.

Note: Please make sure that the UPDATE.BIN file is fit in with the model of the unit. Updating with the wrong UPDATE.BIN file may cause any physical damage to the device.

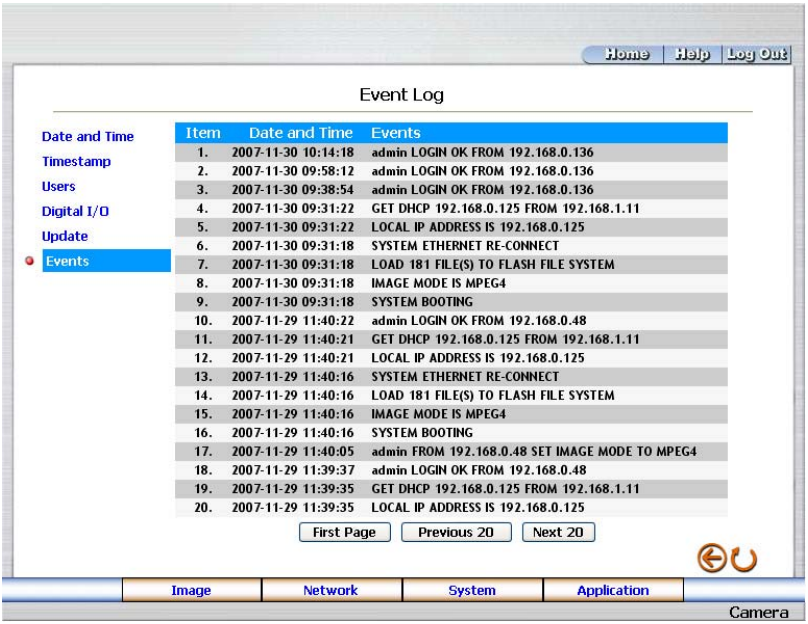
Note: The Temporary Internet Files (or cache) folder contains Web page content that is stored on your hard disk for quick viewing. We suggest deleting the Temporary Internet Files immediately after updating the firmware. To delete the files in the Temporary Internet Files folder, follow these steps:

1. Quit Internet Explorer and quit any instances of Windows Explorer.
2. Click **Start**, click **Control Panel**, and then double-click **Internet Options**.
3. On the **General** tab, click **Delete Files** under **Temporary Internet Files**.
4. In the **Delete Files** dialog box, click to select the **Delete all offline content** check box, and then click **OK**.
5. Click **OK**.

- *View the Event Logs.*

Please follow the steps below to view events through the network if necessary.

1. Click the **Events** button on the upper left above to enter the “Event Log” page.


Home
Help
Log Out
Event Log
Date and Time
Timestamp
Users
Digital I/O
Update
Events
Item Date and Time Events
1. 2007-11-30 10:14:18 admin LOGIN OK FROM 192.168.0.136
2. 2007-11-30 09:58:12 admin LOGIN OK FROM 192.168.0.136
3. 2007-11-30 09:38:54 admin LOGIN OK FROM 192.168.0.136
4. 2007-11-30 09:31:22 GET DHCP 192.168.0.125 FROM 192.168.1.11
5. 2007-11-30 09:31:22 LOCAL IP ADDRESS IS 192.168.0.125
6. 2007-11-30 09:31:18 SYSTEM ETHERNET RE-CONNECT
7. 2007-11-30 09:31:18 LOAD 181 FILE(S) TO FLASH FILE SYSTEM
8. 2007-11-30 09:31:18 IMAGE MODE IS MPEG4
9. 2007-11-30 09:31:18 SYSTEM BOOTING
10. 2007-11-29 11:40:22 admin LOGIN OK FROM 192.168.0.48
11. 2007-11-29 11:40:21 GET DHCP 192.168.0.125 FROM 192.168.1.11
12. 2007-11-29 11:40:21 LOCAL IP ADDRESS IS 192.168.0.125
13. 2007-11-29 11:40:16 SYSTEM ETHERNET RE-CONNECT
14. 2007-11-29 11:40:16 LOAD 181 FILE(S) TO FLASH FILE SYSTEM
15. 2007-11-29 11:40:16 IMAGE MODE IS MPEG4
16. 2007-11-29 11:40:16 SYSTEM BOOTING
17. 2007-11-29 11:40:05 admin FROM 192.168.0.48 SET IMAGE MODE TO MPEG4
18. 2007-11-29 11:39:37 admin LOGIN OK FROM 192.168.0.48
19. 2007-11-29 11:39:35 GET DHCP 192.168.0.125 FROM 192.168.1.11
20. 2007-11-29 11:39:35 LOCAL IP ADDRESS IS 192.168.0.125
First Page
Previous 20
Next 20
Image
Network
System
Application
Camera

2. Choose one of the three buttons shown on the page to view an event when necessary. The three buttons are titled “First Page”, “Previous 20”, and “Next 20”.

Description of function keys:

First Page: Displays the first page.

Previous 20: Displays the previous 20 pages.

Next 20: Displays the next 20 pages.

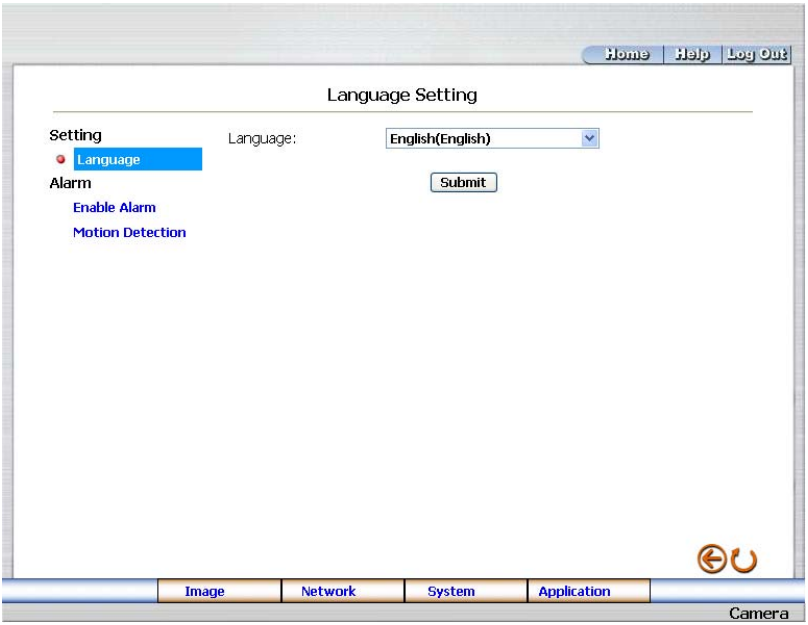
4.1.5 Change the Application Setting

Please follow the steps below to change the application setting through the network if necessary.

- *Change the Application Setting —Language Setting.*

Please follow the steps below to change the Language setting via the network if necessary.

1. Click the **Language** button on the left side to enter the “Language Setting” page.

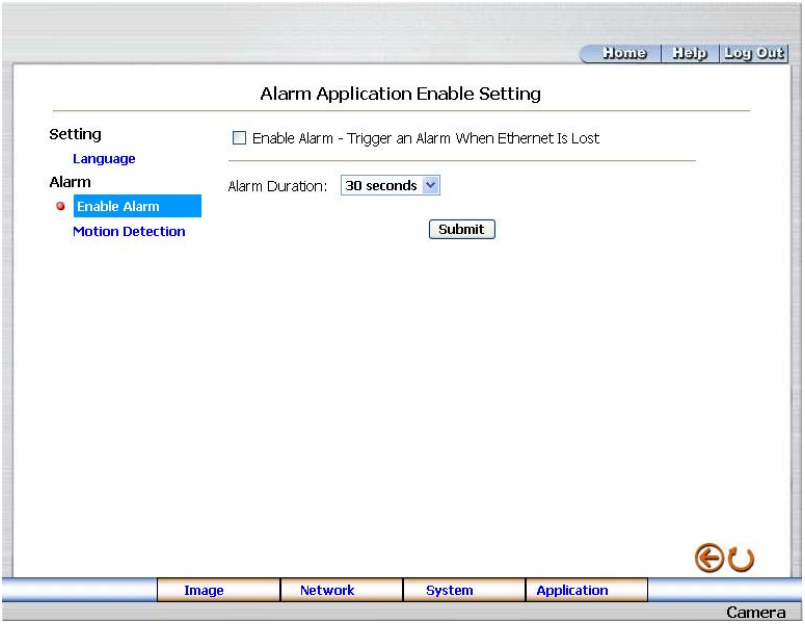


2. You have an option as to which language to use. The default is “English”
3. Click your selected language and click "Submit" to set it.

- *Change the Application Setting — Alarm Application Enable Setting.*

Please follow the steps below to change the setting via the network if necessary.

1. Click the **Enable Alarm** button on the left side of the record to enter the “Alarm Application Enable Setting” page.



2. Click “Enable Alarm – Trigger an Alarm When Ethernet Is Lost” to checkmark the attached box and activate the function.
3. Enter the "Alarm Duration" you have chosen.
4. Click the **Submit** button to submit the new setting of the recording.
5. Click the **Home** button to return to the home page.

Description of function keys:

Enable ALARM – Trigger an Alarm When Ethernet Is Lost: Activates or deactivates the alarm triggering while the Ethernet lost.

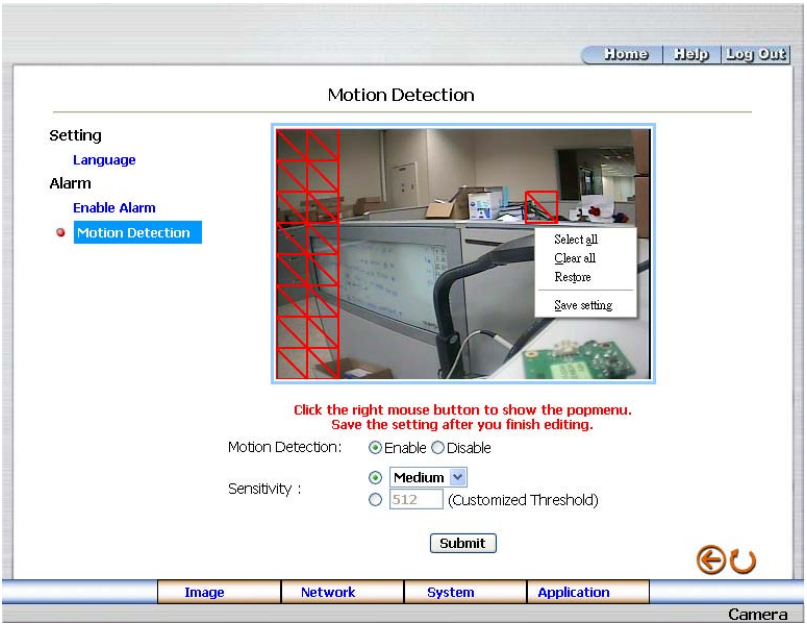
Alarm Duration: Predetermines the length of the alarm.

- *Change the Application Setting — Alarm - Motion Detection.*

Please follow the steps below to enable changes in the motion detection function of the alarm through the network if necessary.

Set the motion detection:

1. Click the **Motion Detection** button on the left side of the Alarm to enter the “Motion Detection” page.



2. Click and drag the mouse across a targeted zone to draw a red rectangle on the image (coordinates provided below).

   NOTE: You can set more than one targeted zone depending on your requirement.
3. Enables / disables the motion detection function.
4. Set up the signal level.
5. Click the **Submit** button to submit the new setting of the recording.
6. Click the **Home** button to return to the home page.

Description of function keys:

The targeted zone: Click and drag the mouse across the targeted zone to draw a red rectangle on the image.

Detection Range: The red rectangle’s coordinates.

Save: Click to save the motion detection range.

Motion Detection: This option enables / disables the motion detection function.

Sensitivity Level: You can select any one of the given options for the setup signal level or just type in the value of Customized Threshold.

4.1.6 PPPoE & DDNS

Using the PPPoE

1. Install the XDSL software (obtained from your ISP dealer) in your PC.
2. Search your IP Camera's IP address: you can use your Network Viewer's Scan IP program, or just connect the IP camera and the Video monitor. The monitor screen will show the IP address on its right side.
3. Change the switch on the IP camera's side panel to position # 4.
1. Installing an IP address in your PC or notebook.

   Desktop → Move the mouse focus to the Network neighborhood and click the right key of the mouse → Choose the properties → Choose your local connection → Choose the properties and select the configuration → Select the TCP / IP → Choose the properties → Type in the IP address in a four-part formula, for example “192. 168. 1.101” (the first three parts must be identical to the above numbers, only the last part can be changed to your own number, which must never exceed 255) → Click the mask and the mask input, namely “255. 255. 255. 0” (a fixed formula) → Click “OK” → Click “OK”.
5. Desktop → Choose IE browser → Type in the IP Camera IP address in the URL (check step # 2 above) → Enter → IP camera images will appear.

PPPoE Settings

1. Enter the IP Camera home page → Choose the network → Type in “User Name: admin” and “Password: 9999” → Click “OK’.
2. Choose PPPoE → PPPoE mode: Select “ON” → Type in “Account” → Type in “Password” → Submit → Unplug the power connection.
3. Plug in the IP Camera and it will receive an IP address from the ISP dealer (this IP address is dynamic --- every time you unplug and plug in again you’ll get a new IP address).

Test: Go to the Internet.

1. Set your PC to enter the Internet.
2. Desktop → IE browser → Type in the IP Camera IP address (the same address as in the PPPoE settings and step 3 above) → You can see the IP camera images.

DDNS settings

1. Check your IP Camera's IP address (Scan IP software or monitor) → open your IE browser → Use the address to connect to the IP camera or view the images → Choose the network → Type in "User name : admin" and "Password : 9999" → Click "OK" .
2. Choose the "DDNS" → Click "Enable DDNS" → Enter the "DDNS host name", for example "abc123. homeip.net" → Type in "DDNS Account", for example "abc123" → Enter the "DNS Password", for example "7777" → Submit → The settings are now complete → Close the IE browser.
3. Open the IE browser again → Type in the Website address you just applied for, such as "abc123.homeip.net" → You can look at your IP Camera images right away. The procedure is complete.

Note: These settings are only for your ADSL Dynamic IP configuration. If your configuration is fixed (true IP), you don't need to proceed with the PPPoE and DDNS settings. The DDNS is just for your convenience.

4.2 The IP Camera IP Surveillance

This section provides instructions for installing and using the IP surveillance and Image Viewer, which are included with the IP Camera. The programs can be operated by a selected PC equipped with the following requirements.

System Requirements

- Intel Pentium 1.5 GHz processor or above (2.8 GHz or higher recommended).
- 128-MB RAM at least (256-MB or higher recommended).
- Windows 2000, XP or above.
- 4 MB VGA card capable of 24-bit true color display.
- 100 MB free hard-disk space for software installation.
- 10/100 Base-TX network for LAN operation.
- The Microsoft Internet Explorer 6 above.

In the multi-channel recording mode, the HD data transfer rates must be 66MB or above (100MB or higher recommended).

4.2.1 Introduction to IP surveillance

The IP surveillance allows you to access many units of the IP Camera from a remote desktop or a laptop in a TCP/IP networking environment. It can perform the following functions.

- View live images from the IP Camera.
- Store, search, and review recorded video from the PC.
- Change a regular record, event record, and timer properties.

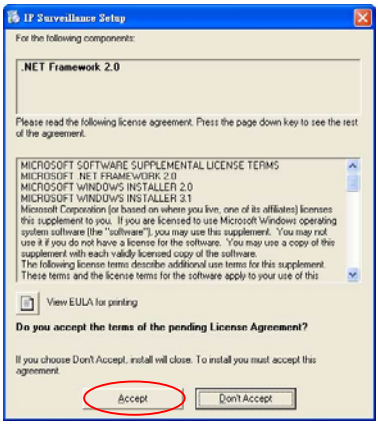
Before you are ready to view images from a desktop, you need to have your IP Camera networked by obtaining a 10/100 base-TX Ethernet data cable (Standard RJ-45) to connect the IP Camera to your LAN/WAN. Now enter the main menu to set the IP address.

4.2.2 Install the IP surveillance in your PC

Install the IP surveillance from the supported CD-R.

1. Exit all applications currently running in the selected PC.
2. Insert the supported CD in the CD-ROM drive. The program will execute the installation automatically. Follow the on-screen instructions to proceed with the rest of the installation procedure as they appear.

   NOTE: It will update the .NET Framework to version 2.0 automatically. Please click "Accept" to continue.


IP Surveillance Setup
For the following components:
.NET Framework 2.0
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
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3. After the installation is complete, pop up the **START** menu from your computer, and point to **Programs / IP surveillance / IP surveillance** to open up the program selection page as shown below. Click the **IP surveillance** tag to start the **IP surveillance** program.

Install the IP surveillance for the ZIP file.

1. Save the ZIP file to your PC and extract the file to a designated directory.
2. Open the extracted folder. The folder contains 1 file.
3. Click on the

icon to execute the installation and then follow the on-screen instructions to proceed with the rest of the installation procedure.
4. After the installation is complete, click the **START** menu from your computer, and point to **Programs / IP surveillance** to start the **IP surveillance** program.

NOTE: Please make sure the TCP/IP communication software has been properly set and configured in your computer. To check your TCP/IP settings, please refer to section 4.5 (the TCP/IP configuration setting).

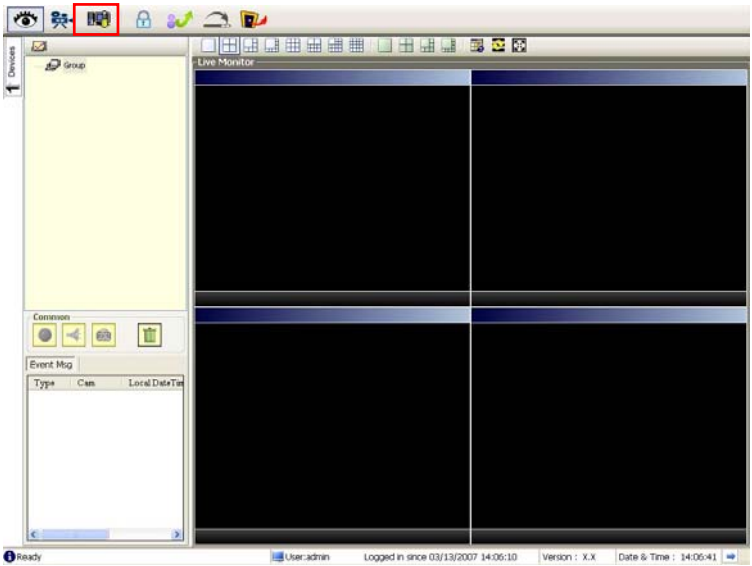
4.2.3 Login the Network camera software

Once the IP surveillance is executed, a Login prompter will appear. You must enter the default User Name: **admin**, and the password: **9999** in the respective spaces. Click the "**OK**" button and enter the console page of the IP surveillance: both the user name and password must be entered correctly. Click the "**Cancel**" button and exit the login of the Network Viewer.

Note: Click **button to select another language. The default is "English".**

View the Network camera video from a remote PC

Follow the instructions below to use the IP surveillance to browse a Network camera video from a remote location. Upon entering the IP surveillance, a connection box will appear as follows.



1. Press the button to enter the **Settings** page.

2. Press the button to add a new device group. After typing in the Group Name, please press the **OK** button.

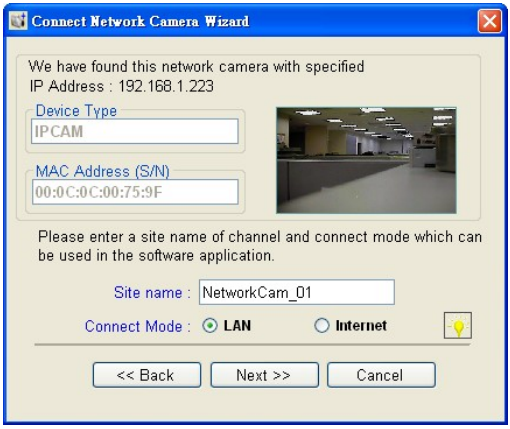
3. Add a channel from the button.

4. **(1)** Click the **Auto-Search** button at the bottom of the "Connect Network camera Wizard" page to discover the connection of the Network camera - type device in the LAN. Instantly the "Search Network camera " page will appear. Click the device of your choice and click "**Select**" at the bottom of the page to access the "Connect Network camera Wizard" page again.

   (2) Type in the IP Address or the domain name and HTTP port of the device and add the device to the Device List.

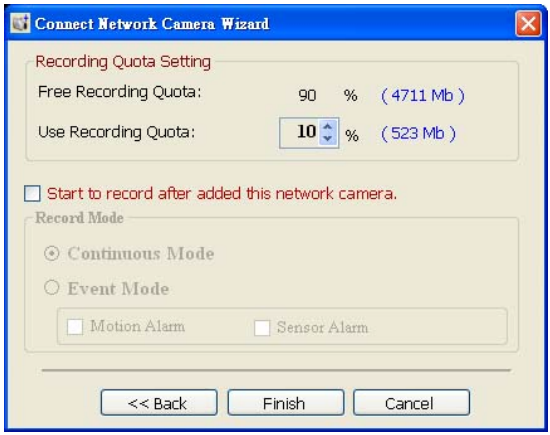
5. Type in the **Password** in the " Connect Network camera Wizard " page. Click "Next" button to open another "Add Device Wizard" page.

6. This page provides the IP Address, the device type, and the MAC Address. After typing the Site name and selecting the Connect Mode, please click the "Next" button to access the next "Connect Network camera Wizard" page.



NOTE: Please click the icon to see the details of the Connect Mode.

7. After finishing the setting of the Device Recording, please click the "**Finish**" button to establish the connection between the device and the computer.



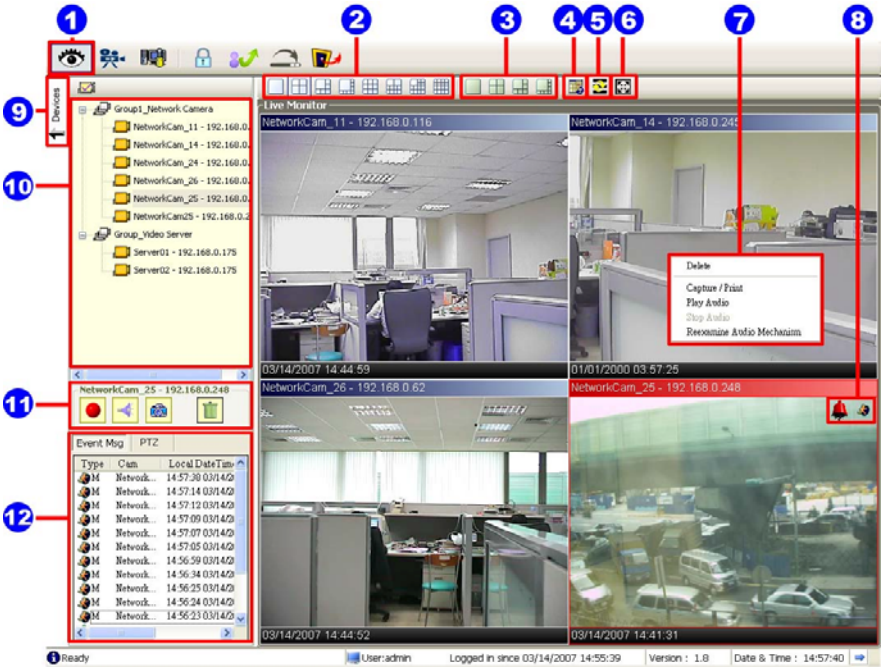
8. Click the devise title to begin viewing images with this camera from the Device List.

NOTE: To add more connections or units to the Network camera, please repeat the above instructions.

4.2.4 Operation

4.2.4.1 Live Monitor

Once the connection has been established, click the button to enter the Live Monitor window. (See the sample screen below.) On the left side of the window is the connected device that has been arranged when you established the connection.



1. The Live Monitor icon.

   ◇**Add a camera video onto the Live Monitor area:**

   (1) Click on the title of the camera that was connected.

   (2) Hold down the right mouse button and drag onto the droppable Live Monitor area. The video from the new camera will be displayed.

   (3) In the Live Monitor area, if you want to exchange the videos of different cameras, you can drag the video and drop it where you want to locate the video.

2. The Split-Screen display function bar: This allows you to display the connected device in the single channel and multi-format screens.

3. The Sequence configuring button: Press to enter the sequential jumping mode, each

multi-screen, and one sequence; the picture will sequentially switch to different channels according to the Sequence Views setting (refer to 5.2.4.3).

Note: One can't use the common icon (#11) in the Sequence displaying mode or drag the video and drop it as s/he likes. For the further settings of each channel, please select the device title on the left side and click the right mouse key to operate.

4. The Circle configuring button: Click this button to see the following channels.
5. The Group Circle button: Click this button to change the different group of display.
6. The Full Screen button: Click this button to show the full screen for surveillance. If you want to return to the previous mode, please click the Normal Screen button.
7. Pop-menu: You can use the mouse to move to each channel. Click the right key of the mouse to show a window. You can select "Delete", "Capture / Print", "Play/Stop Audio" or "Reexamine Audio Mechanism".
8. Motion on/ Alarm on: The warning icons.

   Motion-on icon: When there is a detection of motion in any channel, it will display this icon in the right upper corner of that channel to warn the user.

   Alarm on-icon: When there is a detection of external devices such as a sensor, it will display this icon on the upper right corner of that channel to warn the user.
9. Click this button to hide the "devices list", "common" and "alarm message list" boxes from view behind the video display screen.
10. The section in the upper left margin will show the information in all the devices and its group names.

    The users can click and hold on the device title on the list and drag it to the Live monitor area to see the live image of the camera.
11. common icons:

    Play Audio: no function.

    Record: Click the button to archive AVI videos into your PC. Click once again to deactivate. In the recording mode, there will appear a red twinkling icon in the upper-right hand corner of the image.

    Capture / Print: Provides the image capturing and printing functions.

    Delete: Drop the view here to delete it.

◇**Delete a camera video from the Live Monitor area:**

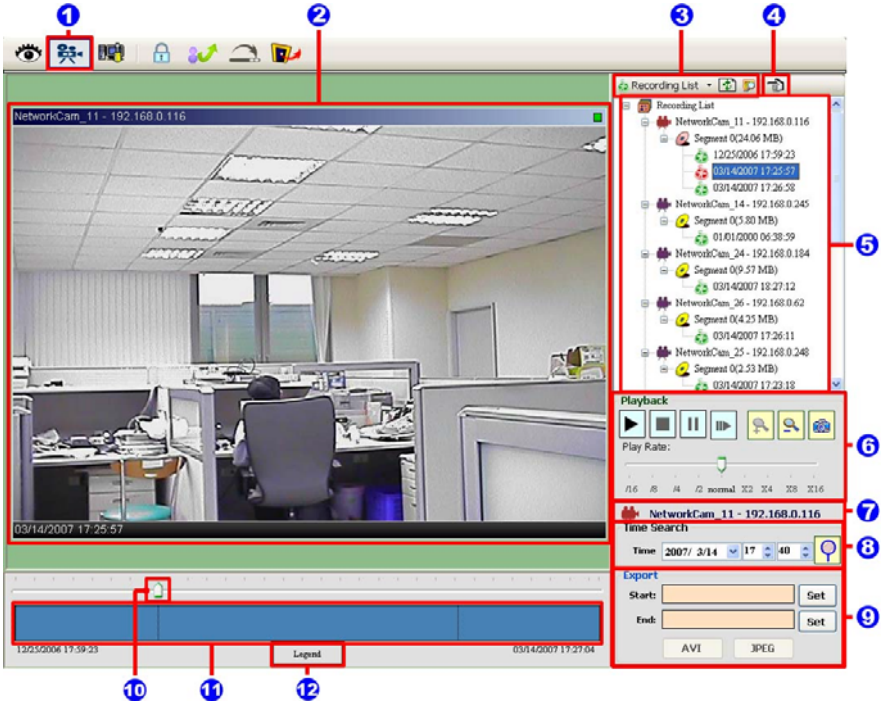
(1) Select the video of the camera which you want to delete.

(2) Press and hold the left mouse button. Then drag it to the trashcan and release the mouse button.

12. Alarm list / PTZ Control: Shows the alarm types, the device names and the occurrence time. You can press the **PTZ** button to change to the PTZ Control mode.

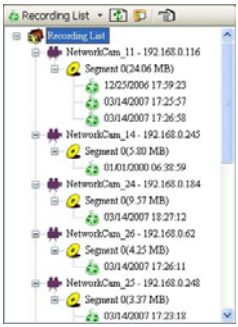
4.2.4.2 Playback Viewer

Press the button to enter the Playback Viewer setting page.

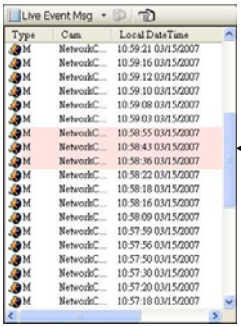


1. The Playback Viewer icon.
2. The display area.
3. Click to choose the Recording List / Live Event Msg .

Recording List



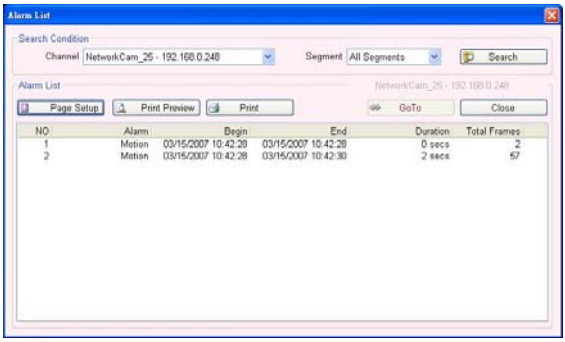
Live Event Message



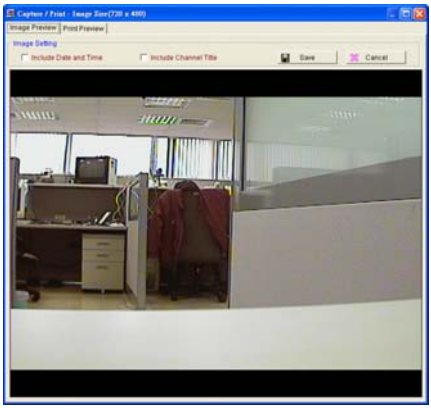
The alarm events which were recorded will be marked in pink color.

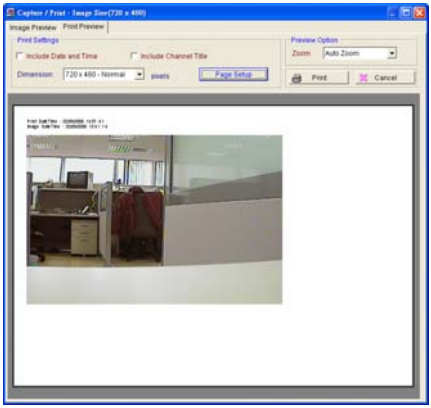
Click to refresh the recording list.

NOTE: To view the alarm lists of a camera which were recorded, please (1) click the icon (2) the Alarm List window will appear as shown below, (3) select a camera from the drop-down list, then (4) click the “Search” button.



4. Move to the left/right area.
5. Recorded video list box. This box allows you to access all recorded video, which are stored in the HDD of the connected devices.
6. Playback function bar.
   - Play - Click to a recorded video from the PLAY LIST.
   - Stop - Click to stop playing back a recorded video or cease recording.
   - Pause - Click to freeze the image.
   - Step - Click to view images picture-by-picture.
   - Zoom in – Enlarges the displayed image.
   - Zoom out - Narrows the displayed image.
   - Capture / Print: Provides the image capturing and printing functions.

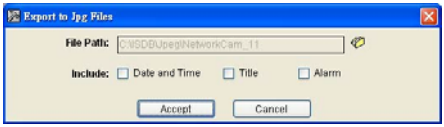




- Play Rate: During play mode, please use the scroll bar to control the show speed.

7. Shows the device title.
8. This allows you to search a recorded video kept in the HDD of the device. Enter the MONTH /DAY /YEAR /HOUR /MINUTE you wish to search and click to proceed.
9. Functions to fit the starting and ending points of an image display, when the user wants to transfer a file.

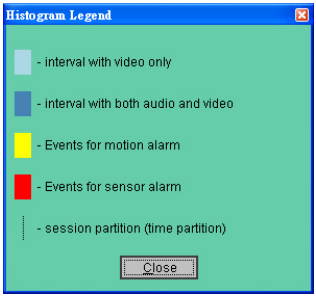
   JPEG: Archives images in the JPEG format to save a single picture in every file.



   AVI: Archives images in the AVI format to save a sequence of images in a file.

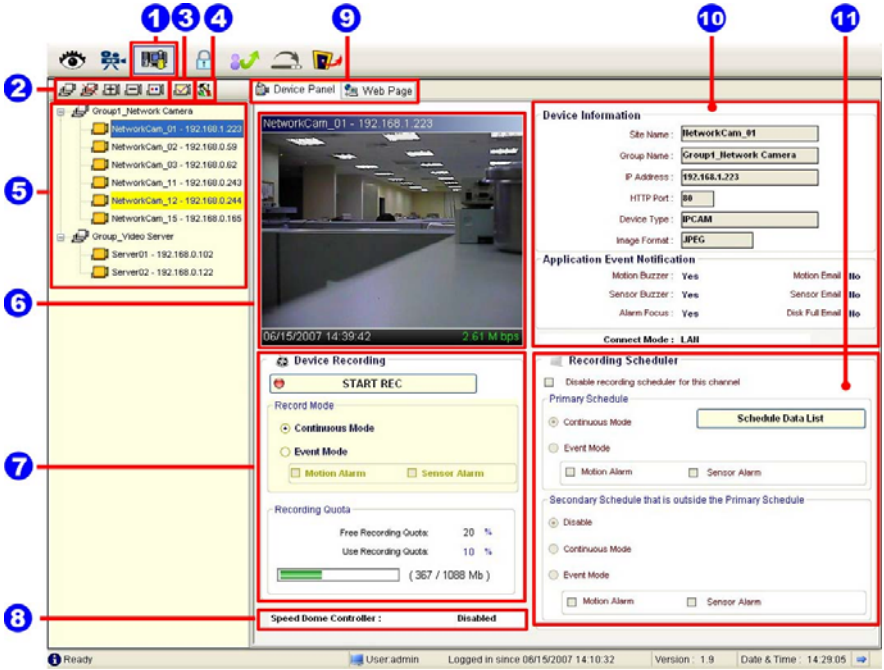
10. Scroll bar for video searching: Drag the square on the bar to search the video. You can click or pull the indicator on the scroll bar to the point you want to see.
11. Displays the recording mode of the video on the histogram.
12. Press the

button to see the Histogram Legend. You can get the event's location in terms of time, and select a group of events or period from the event histogram area and show it on the display area.


Histogram Legend
- interval with video only
- interval with both audio and video
- Events for motion alarm
- Events for sensor alarm
- session partition (time partition)
Close

4.2.4.3 Setting

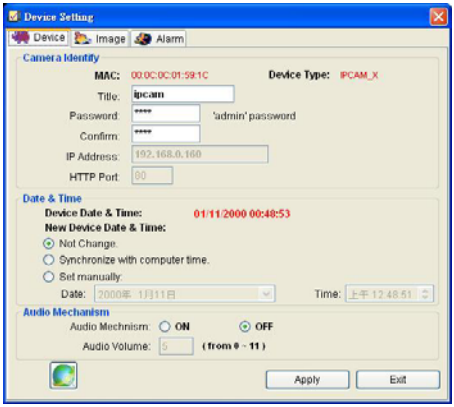
Press the button to enter the Setting page.



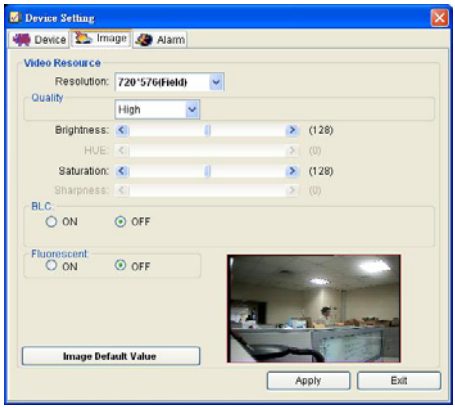
1. The Setting page.
2. Function buttons:
   - **Add a new device group:** Click this button and type in the new group, then press “OK” to save it.
   - **Remove a device group:** Click this button and select the group name, then press “OK” to delete the group.
   - **Add a new camera:** For mode details please refer to section 5.2.3.
   - **Remove a camera:** Click this button and select the group name and Network camera, then “OK” to delete the device.
   - **To edit camera:** Please select a device, then click this button to edit the device.

3. **Device Setting:** Provides four pages of settings.

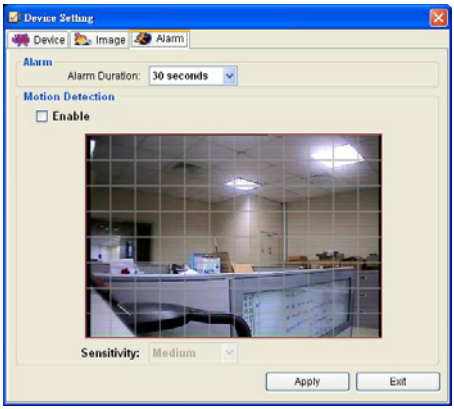
(1) Device Setting page



(2) Image Setting page



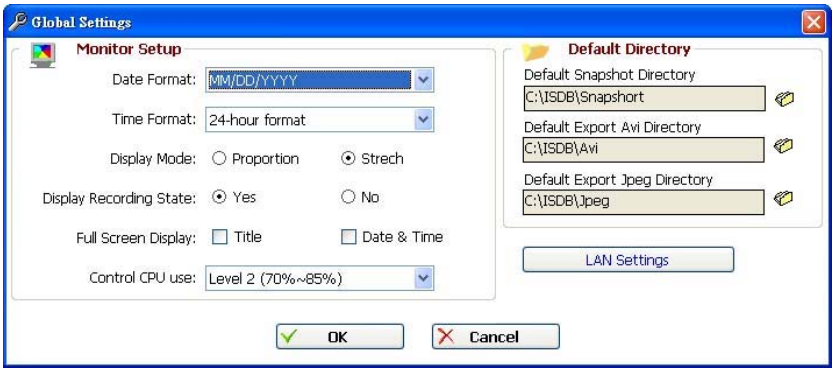
(3) Alarm Setting page



NOTE: Please remember to click the “Apply” button to save the settings.

4. **System Setting:** Provides six pages of settings: the Global Settings, the Event Notification, the Recording Settings, the Scheduler, the Sequence Views, the Speed Dome and the Authority Setup.

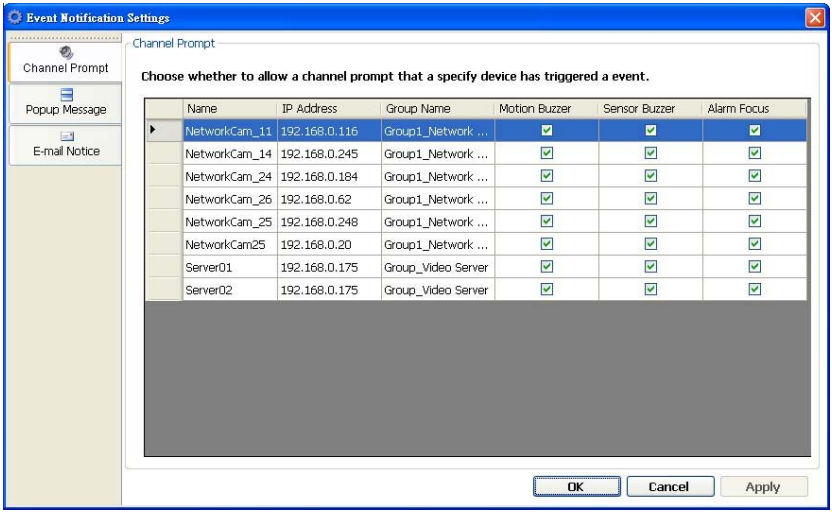
(1) Global Settings



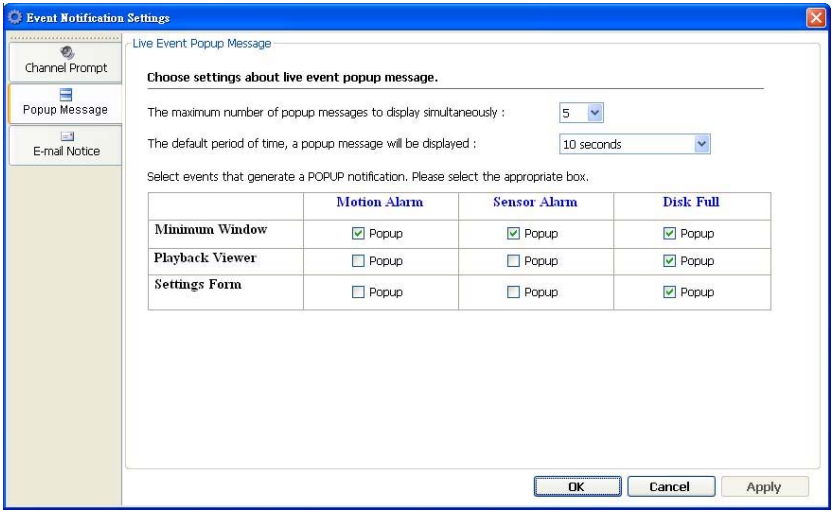
- Monitor setup: Sets the date/time mode and display mode, and controls the CPU use percentage on five levels.
- Default Directory: Sets the default files' saving path. Click to select the directory.

(2) Event Notification

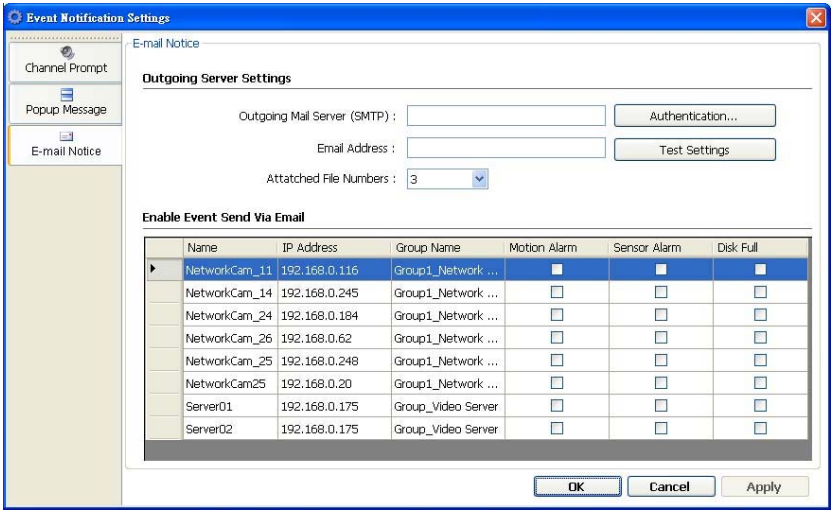
- **Channel Prompt:** Sets each camera to activate or deactivate the three modes of "**Motion Buzzer**", "**Sensor Buzzer**", and "**Alarm Focus**". Tick mark the blank space for each device to activate it.



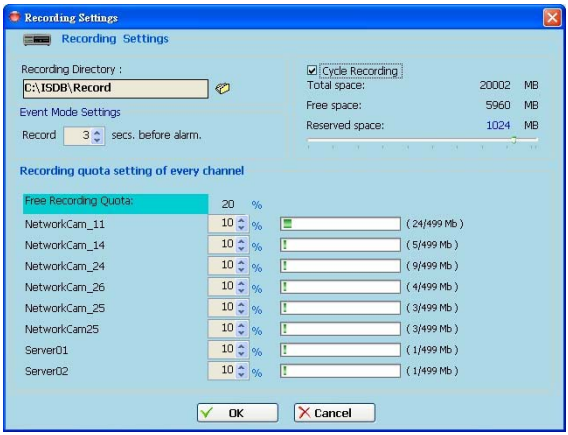
- **Popup Message:** Sets the maximum number of the pop-up messages, the displaying time and the pop-up forms. Tick mark the blank space for each device to activate it.



- **E-mail Notice:** Sets each camera to activate the E-mail Notice function of the three situations: "**Motion Alarm**", "**Sensor Alarm**", and "**DISK Full**". Set the SMTP, the E-mail address and the attached file numbers to mail the user when the alarms occur. Tick mark the blank space for each device to activate it.

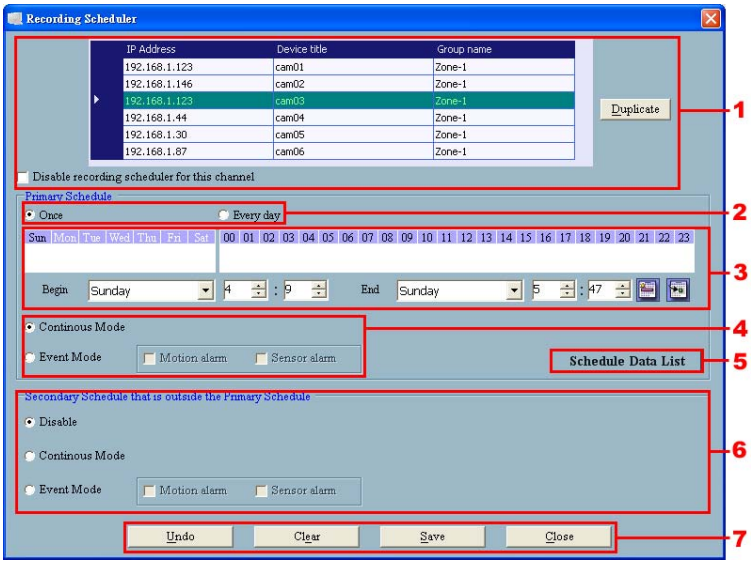


(3) Recording Settings



- **Recording Settings:** You can control the HDD reserved space by using the scroll bar.
- **Recording quota setting:** Set the maximum recording quota of each channel.

(4) Scheduler



(1) Choose one of the devices to set its recording schedule.

(2) Select the period: Click to set to record only once or record every day.

(3) Select the recording time: Sets the periods of time in recording.

Select the Begin time and the End time the time markers will display above. Please use the up (increase) and down (decrease) arrows to adjust the setting.

Add the selected period schedule. You can also hold down the left mouse button to drag a period.

Erase the selected period schedule. You can also use the right mouse button to cancel the period.

(4) Select the recording mode.

(5) Press to show the scheduled recording list.

(6) Set the secondary schedule: Activate or inactivate the other recording modes besides the primary schedule.

(7) Option buttons:

Undo: Undo the latest changes.

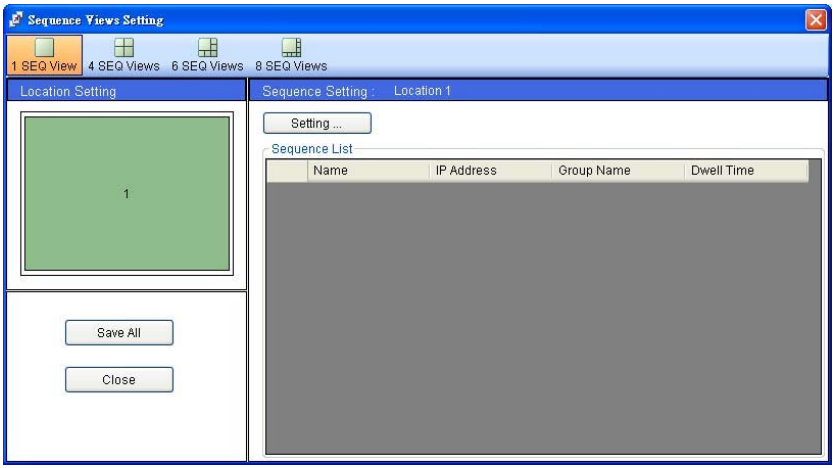
Clear: Clear all the schedule markers in the current editing area.

Save: Apply the changes.

Close: Close the window.

(5) Sequence Views

This function enables you to use four modes to set the sequence of displays you want for the **Sequence Mode** of the **Live Monitor**.



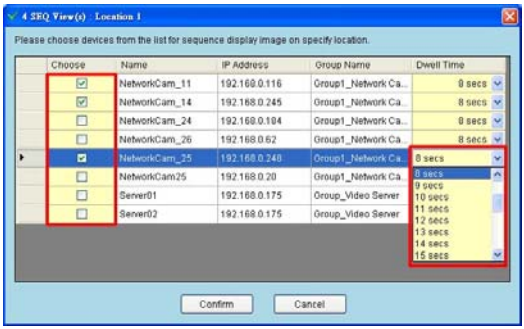
The user has to modify the “Sequence Views Setting” to make it work. For example, if you want to see the **4-window sequence**, please follow the steps given below:

Step 1: Click the Sequence Views button to enter the Sequence Views setting page.

Step 2: Select the **“4 SEQ views”** and the 4-windows will show in the Location Setting area.

Step 3: Select one of the four channels (Location1-4), then click the **“Setting”** button.

Step 4: The 4 SEQ View(s) page will show below. Choose the device(s) and set the Dwell Time (3-30seconds) from the drop-down list, then press the **“Confirm”** button.

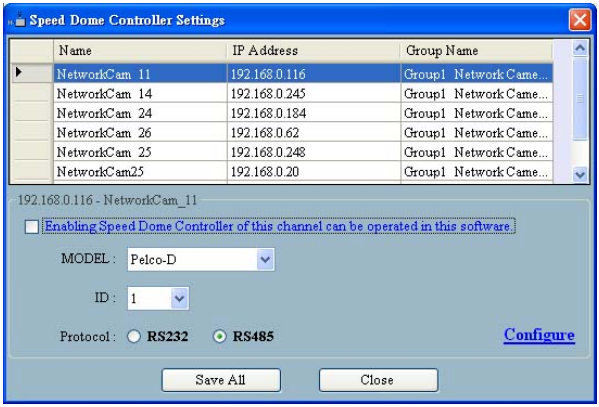


Step 5: Set the other channels as in step 3-4.

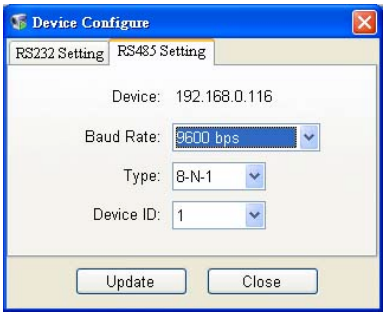
Step 6: Click **“Save all”** button, then press **“Close”** button to exit the setting page.

Step 7: Open the Live Monitor page, then click the (4 SEQ views) button to see the 4-window sequence.

(6) Speed Dome



- Tick mark to activate the Speed Dome Controller function of the selected channel. The user can set the model, ID and the protocol here.
- Click "**Configure**" to enter to the RS232 and RS485 setting pages.

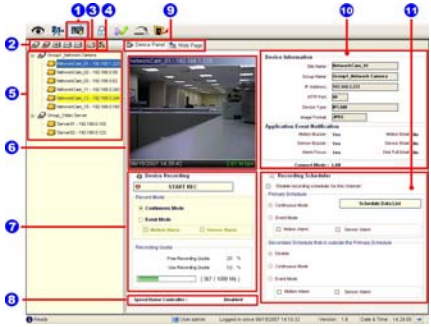


(7) Authority Setup

Authority setup: Change or add the user's authority. There are three different levels of authority , namely Admin, Operator and Viewer.

5. List of cameras and its groups:

   The users can use the icons above the list to change the groups' names, the devices' titles and the channels' display modes.



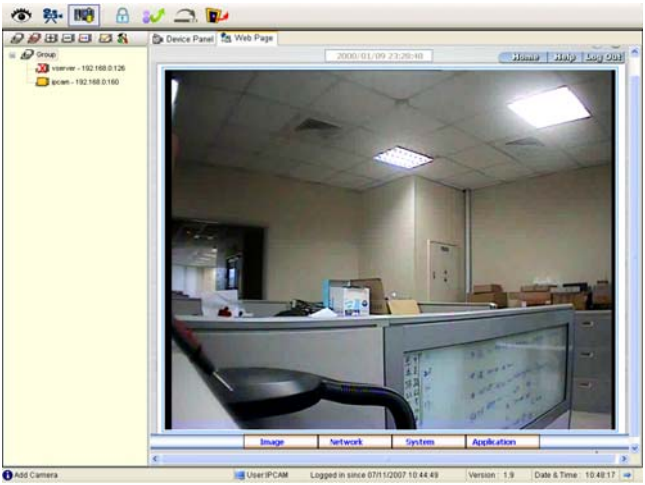
6. Display area: Click the title of the camera, and you will see the live image in this area.

7. Device Recording: Click the "Start Record" button to start the recording mode and click the "Config Record" button to set the details of the recording below.

8. Status of the speed dome controller.

9. You can interchange between two buttons here: the "Device Panel" and "Web page" buttons.

   The web page (please refer to section 5.1 for more details):

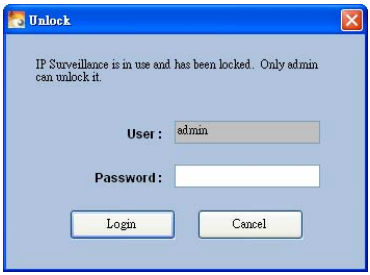


10. Device information: The user can read a camera's information, such as "Site Name", "Group Name", "IP Address", "HTTP Port", "Device type", "Monitor Alarm Process" and the " Connect Mode".

11. Recording Scheduler: Shows the recording information of the selected channel.

4.2.4.4 Lock

Press the button to lock the operation of this software, and the IP Surveillance monitor will be minimized into the systray*of the Windows taskbar. To unlock the command, please click the button once, then type in the correct password.

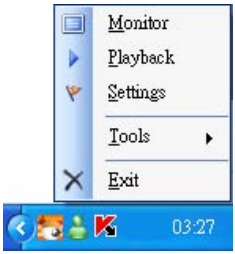


***:** The Microsoft Windows systray is a portion of the Windows 95, Windows 98, Windows ME, Windows NT, Windows 2000, and Windows XP Operating Systems that helps display running programs. The systray is located on the taskbar and is commonly in the bottom right hand corner of the screen next to the time display.

4.2.4.5 Logout

Press the button to logout the IP Surveillance software and the IP Surveillance monitor will be minimized into the systray of the Windows taskbar.

If you want to return to the IP Surveillance monitor, please click the button once, then select the page which you want to get into. After typing in the correct user name and password, you can re-login to the software.



4.2.4.6 Tray

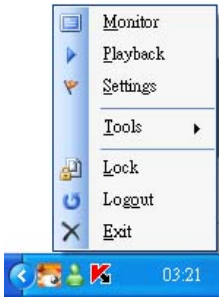
Press the button to minimize the IP Surveillance monitor into the systray of the Windows taskbar.

Click the button once to go back to the IP surveillance software.

4.2.4.7 Exit Setting

Press the button to exit the IP surveillance monitor which is minimized into the systray of the Windows taskbar.

Click the button to select the functions on the list.



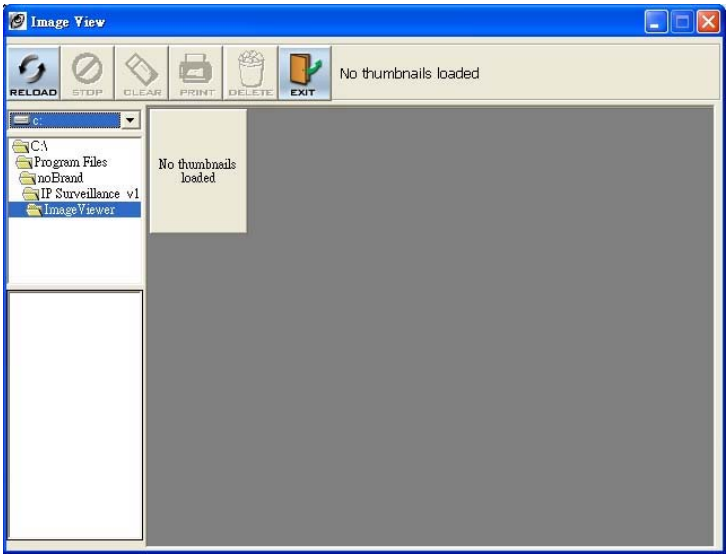
You can also change the password by clicking the “Tools” and “Change password” items on the list. Enter the old password once and the new password twice, then press the “OK” button to save it.

4.2.4 The Image Viewer

The Network camera is equipped with a digital watermark. It's a checking software which protects archived images and informs you whether the images have been modified or not. Follow the instructions below to open an archived image from an HDD.

This is image integrity-protection software. It not only allows you to view an archived image from the HDD of a computer, but also protects an archived image from reproduction or interpolation. If an image isn't in the original format made by a Network camera, the Image Viewer will not display the image and instead will send a warning message, " **Not Correct Image** ", right away. Close this message to enable you to see the image now.

1. Pop up the **START** menu in your computer, and point to **Programs / IP surveillance / Tools** to open up the program selection page. Click the **Image Viewer** tag to start the **Image Viewer** program (see a sample screen below).
2. Click the **RELOAD** tag to load the images from a path.
3. Click the **PRINT** tag to get a displayed image printed out from a printer.



5. ADVANCED OPERATION

Question 1:

How to view the live images of the IP Camera via the Microsoft Internet Explorer on the Desktop PCs or the laptop computers in a situation where there are no monitors or television?

◇The way to get the IP address of the IP Camera without a monitor:

There are three way to get the IP address: Scan IP, UPnP and IP function.

Scan IP: Please refer to **APPENDIX 1**.

UPnP: Please refer to **APPENDIX 2**.

IP function: Please refer to **APPENDIX 3**.

Question 2:

How to use the DynDNS to connect the IP Camera by using its Sub Hostname via the intranet?

◇Set the DDNS function

1. Click the **Network** button in the home page.
2. Click the **DDNS** button on the left side of the page to enter the "DDNS SETTING" page.
3. Tick on the "Enable DDNS Function" to activate it.
4. Choose one of the DDNS Types from the drop-down list.
   If you didn't register for a DDNS before, please choose one of the DDNS Type then press "Apply" button to its registering homepage and register as a member.
5. Enter the DDNS Host Name, DDNS Account and DDNS Password which you created in the www.dyndns.com website.
6. Click the **Submit** button to submit the setting.

   NOTE: Please refer to the **APPENDIX 4** for more details.

◇Set the PPPoE function

1. Click the **Network** button in the home page.
2. Click the **PPPoE** button on the left side of the page to enter the "PPPoE SETTING" page.
3. Choose "ON" from the "PPPoE mode" list to activate it.
4. Enter the Account and the Password which are provided from your ISP.
5. Click the **Submit** button to submit the setting.

NOTE: Please refer to section **5.1.6** for more details.

◇**Use the Sub Hostname to view the IP Camera**

1. Click the URL block at the top of the PC screen.
2. Type in the DDNS Host Name of the IP Camera into the URL block and press the "**Enter**" button to enter the login page.
3. Enter the user name and fill in the password.
4. Click the "**OK**" button and enter the home page of the IP Camera.

Question 3:

How to add or modify the users and their authorities of using the IP Camera?

◇**Entering the setting page**

1. Click the **system** button in the home page.
2. Click the **Users** button on the left side of the page to enter the "SYSTEM - USERS" page.

◇**Add a new user**

1. Please enter the user name, the password, the confirmed password and choose the authority.
   There are three different levels of authorities, namely Admin, Operator and Viewer.
   Admin: The user who accesses with the admin name and password has the full power to even change the settings of the IP Camera.
   Operator: The suggested choice for normal use.
   Viewer: The user who accesses with just the viewer name and password has only a limited power to view.
2. Click the **Submit** button to submit the new user's setting.

◇**Modify the user**

1. Click the user name you want to modify on the **User List**.
2. Enter the password, the confirmed password and choose the authority.
3. Click the **Submit** button to submit the new setting.

◇**Delete a user**

1. Click the user name you want to modify on the **User List**.
2. Click the **Delete** button.

6. SPECIFICATIONS

1/3" Color CCD Vandal-proof IP Dome Camera		
Model		**High-resolution**
Video	Video sensor	1/3" SONY CCD
	System	NTSC
	Horizontal resolution	520 TVLs (High-resolution)
	Lens	Board lens 3.6 mm
	AWB	2500°K ~ 9000°K
	AES	1/60 ~ 1/100000 sec
	Pan/ Tilt/ Zoom Control (Manual Adjustment)	Pan: 0~360° Tilting: 0~180°
	Min. illumination	1.0 Lux @ F2.0
Image	Compression	MJPEG / MPEG4
	Resolution	D1/Half D1/CIF
	Frame-rate	30 / 24 / 15, adjustable
	Picture size (quality)	MJPEG: 4~64KB; MPEG4: 64Kbps~8Mbps (bit rate)
	Configurations	Contrast, Brightness, BLC, Sharpness, Saturation
	Mirror	Yes
	Motion detection	Motion Detection (96 zones, 5 levels)
	Time stamp	Time/Date/Title
	Privacy Mask	3 masks per screen max
Audio	microphone	N/A
Network	Interface	Ethernet (RJ-45 wired, 10/100 base-tx)
	MDIX	support
	Protocols	TCP/IP, DHCP, HTTP, ICMP, UPnP, ARP, DNS, DDNS, PPPoE
	Throughput	2.0M bytes/sec
Software	Web browser	Microsoft IE 6.0 or above
	PC software	Yes
	Development tools	ActiveX / HTTP-API / SDK
	Security	Multiple level / Multiple users / IP address filtering
Connectors	Video output	1.0 Vpp, 75 ohm, composite, negative, BNC x 1
	Alarm I/O	Red: ALM In, Green: ALM Reset, Black: GND, Yellow: ALM Out,
	USB	1.1 slave for PnP Configuration and Update
	Reset	Factory Default
Others	LED indicator	Network indicator
	Power requirement	DC12V / 3.6W
	Operating Temperature	0°C ~ 50°C
	Dimensions	142(D) mm x 84(H) mm, 450 g
	Approvals	FCC, CE, RoHS
	Accessories	Power adapter x 1 USB wire x 1 Accessories package x 1 CD x 1 (PC software; User manual)

*Specifications are subject to change without notice.

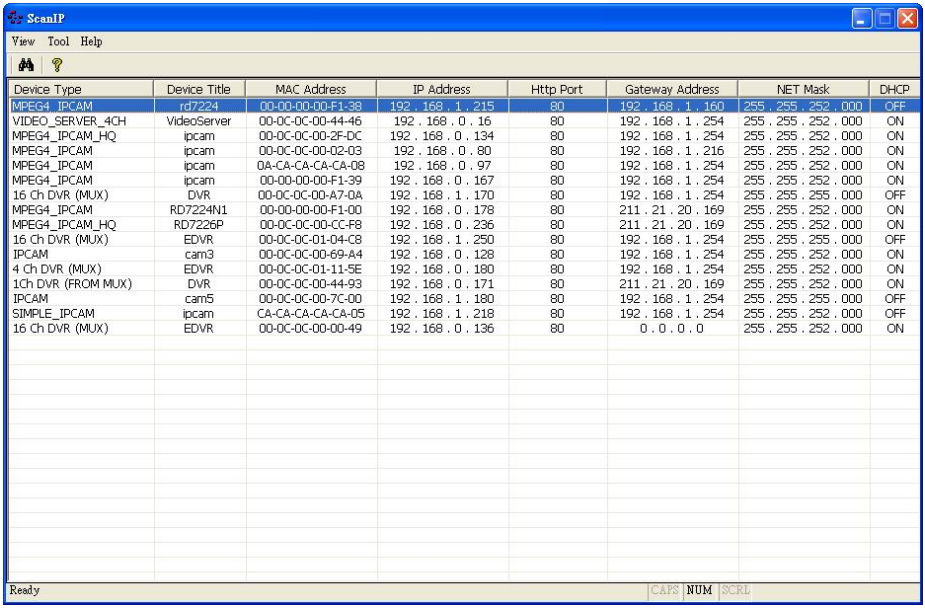
7. Functions of client PC

System requirement	Windows 2000, XP or above
Browser	IE 6.x
Live Monitor	Max. 16 Split , Real Time REC/ Capture/ Live Event/ Full Screen
Playback Viewer	Playback, Time / live event Search / Export (JPEG / AVI)
Settings	Device/ System/ Camera management/ web page
Multi-camera link	Max. 16 camera

APPENDIX 1. –SCANIP

Follow the instructions below to use the SCANIP software to search the IP Camera devices from a local location.

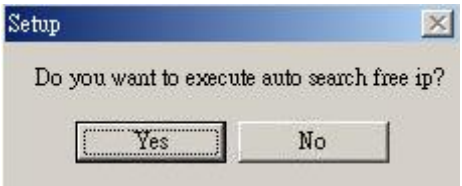
1. Click the button to discover the connection of the all-type device in the LAN. The **Device List** will display the connection of the all-type device.
2. Select the desired device from the **Device List**.
3. Click the desired device to show the window while the IP Camera information acts to display the desired changes instantly.



Device Type	Device Title	MAC Address	IP Address	Http Port	Gateway Address	NET Mask	DHCP
MPEG4_IPCAM	rd7224	00-00-00-00-F1-38	192 . 168 . 1 . 215	80	192 . 168 . 1 . 160	255 . 255 . 252 . 000	OFF
VIDEO_SERVER_4CH	VideoServer	00-0C-0C-00-44-46	192 . 168 . 0 . 16	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
MPEG4_IPCAM_HQ	ipcam	00-0C-0C-00-2F-DC	192 . 168 . 0 . 134	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
MPEG4_IPCAM	ipcam	00-0C-0C-00-02-03	192 . 168 . 0 . 80	80	192 . 168 . 1 . 216	255 . 255 . 252 . 000	ON
MPEG4_IPCAM	ipcam	0A-CA-CA-CA-CA-08	192 . 168 . 0 . 97	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
MPEG4_IPCAM	ipcam	00-00-00-00-F1-39	192 . 168 . 0 . 167	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
16 Ch DVR (MUX)	DVR	00-0C-0C-00-A7-0A	192 . 168 . 1 . 170	80	192 . 168 . 1 . 254	255 . 255 . 255 . 000	OFF
MPEG4_IPCAM	RD7224N1	00-00-00-00-F1-00	192 . 168 . 0 . 178	80	211 . 21 . 20 . 169	255 . 255 . 252 . 000	ON
MPEG4_IPCAM_HQ	RD7226P	00-0C-0C-00-CC-F8	192 . 168 . 0 . 236	80	211 . 21 . 20 . 169	255 . 255 . 252 . 000	ON
16 Ch DVR (MUX)	EDVR	00-0C-0C-01-04-C8	192 . 168 . 1 . 250	80	192 . 168 . 1 . 254	255 . 255 . 255 . 000	OFF
IPCAM	cam3	00-0C-0C-00-69-A4	192 . 168 . 0 . 128	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
4 Ch DVR (MUX)	EDVR	00-0C-0C-01-11-5E	192 . 168 . 0 . 180	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	ON
1Ch DVR (FROM MUX)	DVR	00-0C-0C-00-44-93	192 . 168 . 0 . 171	80	211 . 21 . 20 . 169	255 . 255 . 252 . 000	ON
IPCAM	cam5	00-0C-0C-00-7C-00	192 . 168 . 1 . 180	80	192 . 168 . 1 . 254	255 . 255 . 255 . 000	OFF
SIMPLE_IPCAM	ipcam	CA-CA-CA-CA-CA-05	192 . 168 . 1 . 218	80	192 . 168 . 1 . 254	255 . 255 . 252 . 000	OFF
16 Ch DVR (MUX)	EDVR	00-0C-0C-00-00-49	192 . 168 . 0 . 136	80	0 . 0 . 0 . 0	255 . 255 . 252 . 000	ON

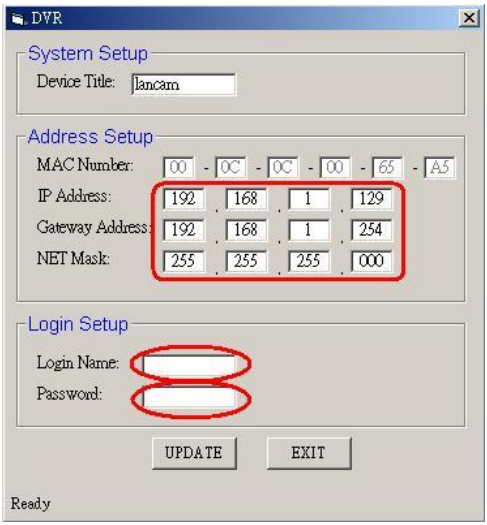
4. Do you want to automatically search free IP?

   If and when you want to automatically search the free IP, select “Yes” or “No”. If you click “Yes” the software will provide the “Free IP Address” boxes on the right side of the window. If you click “No”, these address boxes will not show.



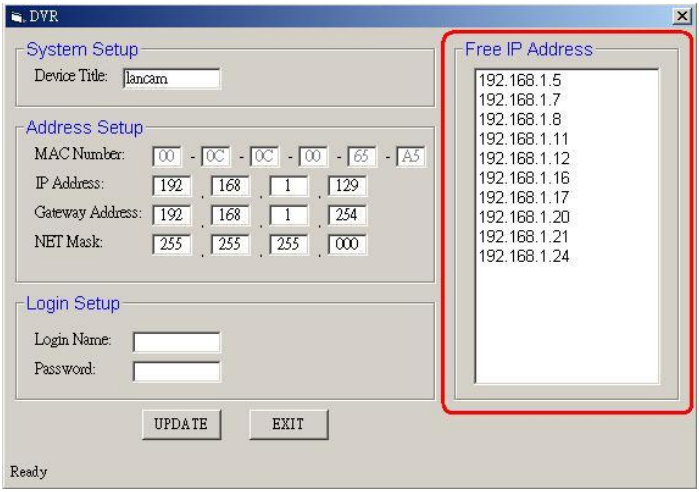
1. Manual insertion of “Free IP Address”.

If you have clicked “No”, please manually type in insertions as required in the “Free IP Address”, “Gateway Address”, and “NET Mask”. Follow each insertion you make by typing in the “Login Name” and “Password”, and click “UPDATE” to send your alterations to the IP Camera.


DVR
System Setup
Device Title: lancam
Address Setup
MAC Number: 00 - 0C - 0C - 00 - 65 - A5
IP Address: 192 . 168 . 1 . 129
Gateway Address: 192 . 168 . 1 . 254
NET Mask: 255 . 255 . 255 . 000
Login Setup
Login Name:
Password:
UPDATE
EXIT
Ready

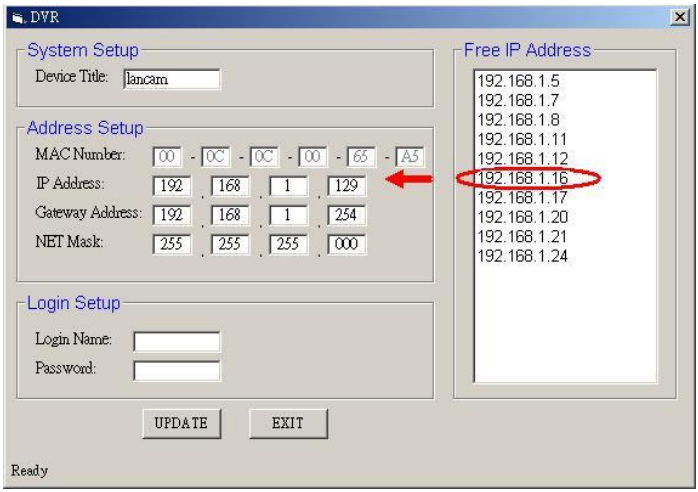
2. Automatically search “Free IP Address”.

If you clicked “Yes” the “Free IP Address” box will appear on the right.

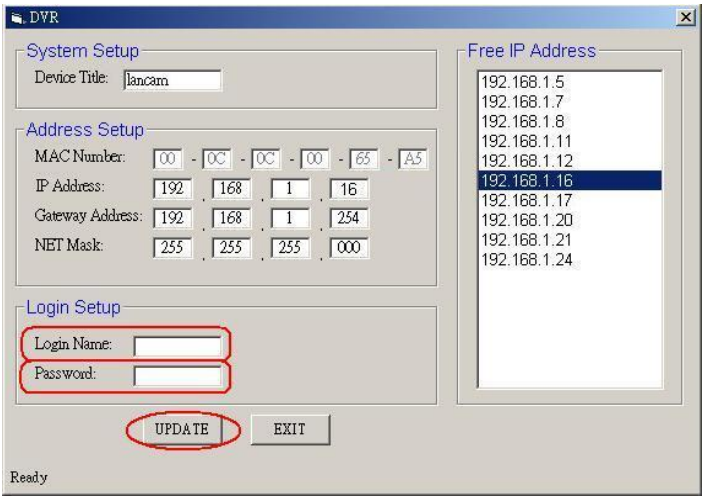


3. Select and double click any of the addresses in the “Free IP Address” box on the right to

enter it into an IP Address on the left.



4. To change any IP address, type in the new address in the “Free IP Address” box on the right as well as the device “Login Name” and “Password” in their respective blanks at bottom left, then click “UPDATE”, and the new address will automatically be sent to the device.



5. Click “Exit” at bottom right to shut the device.

APPENDIX 2. –IP camera UPnP How To

The most troublesome issue when you setup an IP camera is that you have no idea what the IP address of this device is. Now IP camera supports the UPnP (Universal Plug and Play) protocol which makes it easier for you to examine it; however, it is a pity that Microsoft Windows XP® doesn't start this service by default. Therefore, the following procedures will help you to turn it on and discover your IP camera step by step as shown in Figure1 below.

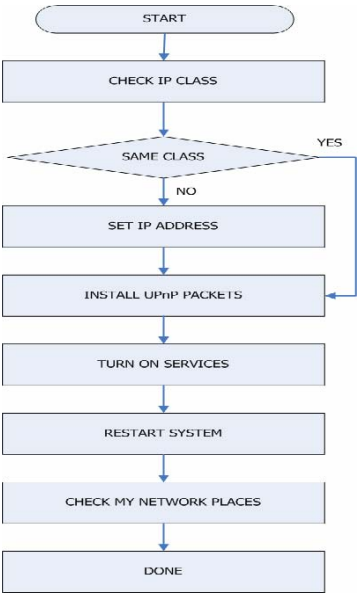


Figure 1 UPnP Setup Flow Chart

1. Check the IP class of your PC

In most case Microsoft Windows XP® will assign an IP address, 169.254.*.*, automatically with a subnet mask, 255.255.0.0, if the DHCP server is absent, while the default IP address of an IP camera is 192.168.1.168 with a subnet mask of 255.255.255.0. There won't be any communication due to different IP class domains, and you have to modify the relative settings or the UPnP protocol won't work; however, checking your own IP address is necessary. Here are the procedures to check and modify them.

Step 1: From the **Start** menu, point to **Settings**, and then click **Control Panel**. See Figure 2.

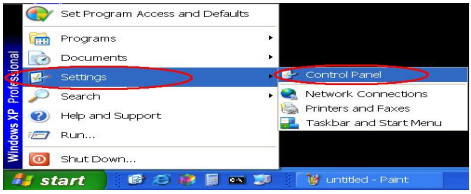


Figure 2

Step 2: When **Control Panel** appears, double-click the **Network Connections** icon. The **Network Connections** dialog box appears. See Figure 3.

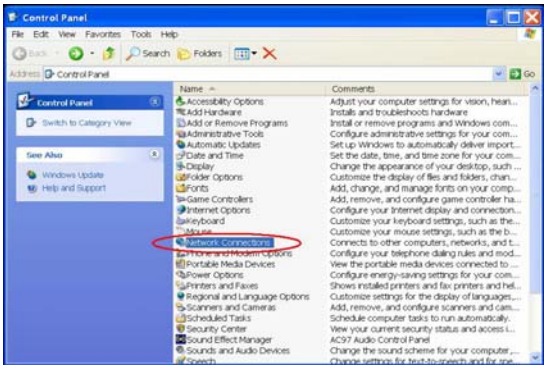


Figure 3

Step 3: Click the **Protocols** tab in the **Network Connections** dialog box. See Figure 4.

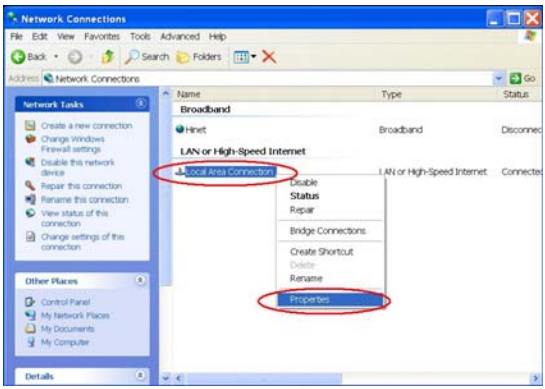


Figure 4

Step 4: When the **Local Area Connection Properties** dialog box shows up, choose **Internet Protocol (TCP/IP)** and click **Properties**. See Figure 5.

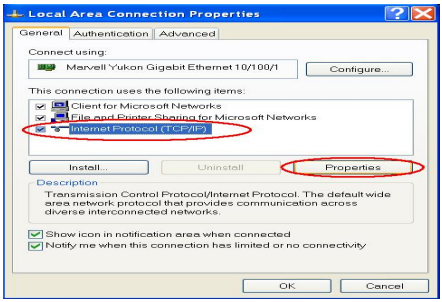


Figure 5

Step 5: In the **Internet Protocol(TCP/IP) Properties** dialog box, choose **Use the following IP Address** to indicate that you do not wish to use DHCP, and assign IP Address 192.168.1.200 with Subnet mask 255.255.255.0.

Click **OK** when you finish it. See Figure 6.

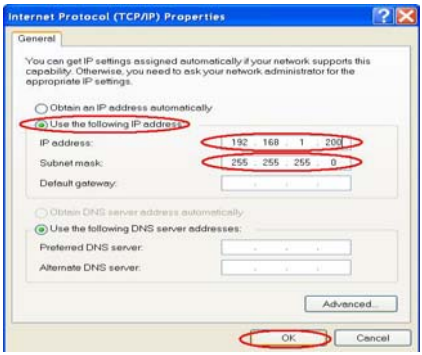

Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 168 1 200
Subnet mask:
255 255 255 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 6

Step 6: Choose Close to finish the modification. See Figure 7.

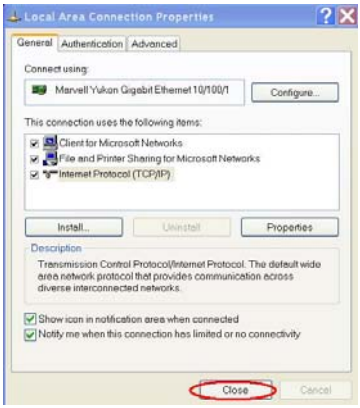


Figure7

2. Install UPnP Packets

As described before, Microsoft Windows XP® doesn't start the UPnP service by default; however, we have to install some packets before we initialize it. The following steps will help you to install them.

Step1: From the **Start menu**, point to **Set Program Access and Default**, and then click it. See Figure 8

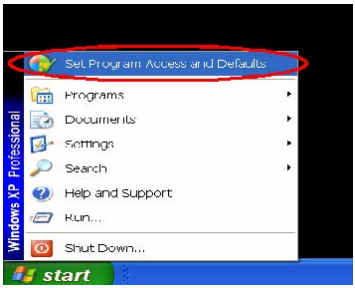


Figure 8

Step 2: When the **Add or Remove Programs** dialog box appears, click the **Add/Remove Windows Components** button. See Figure 9.

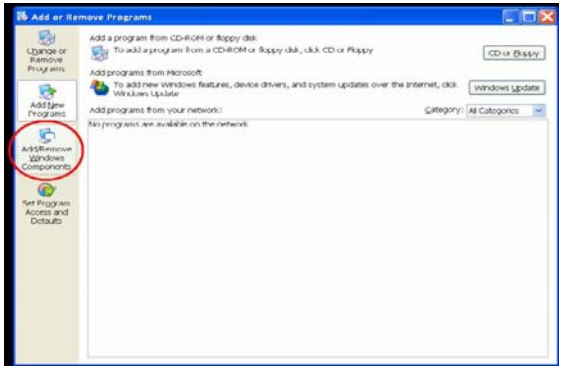


Figure 9

Step 3: Check the **Network Services** in the **Windows Component Wizard** dialog box, and then click **Details…**. See Figure10.

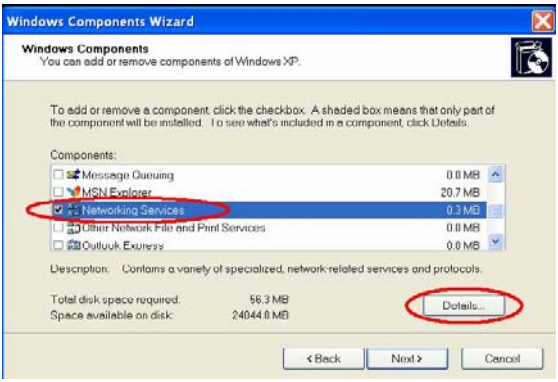

Windows Components Wizard
Windows Components
You can add or remove components of Windows XP.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Message Queuing 0.0 MB
MSN Explorer 20.7 MB
Networking Services 0.3 MB
Other Network File and Print Services 0.0 MB
Outlook Express 0.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 56.3 MB
Space available on disk: 24044.0 MB
Details...
< Back
Next >
Cancel

Figure 10

Step 4: Check **UPnP User Interface**, and choose **OK**. See Figure 11.

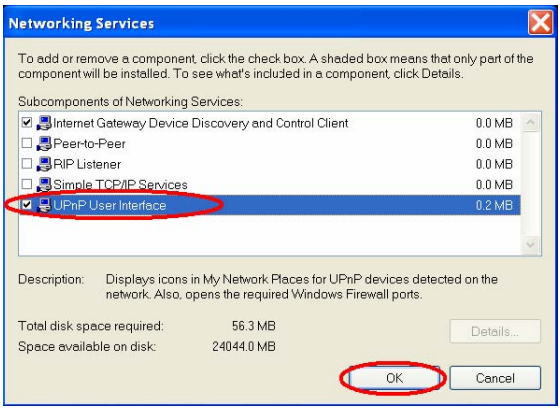

Networking Services
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Networking Services:
Internet Gateway Device Discovery and Control Client 0.0 MB
Peer-to-Peer 0.0 MB
RIP Listener 0.0 MB
Simple TCP/IP Services 0.0 MB
UPnP User Interface 0.2 MB
Description: Displays icons in My Network Places for UPnP devices detected on the network. Also, opens the required Windows Firewall ports.
Total disk space required: 56.3 MB
Space available on disk: 24044.0 MB
Details...
OK
Cancel

Figure 11

Step 5: When the original **Network Component Wizard** dialog box returns, click **Next**. See Figure12.

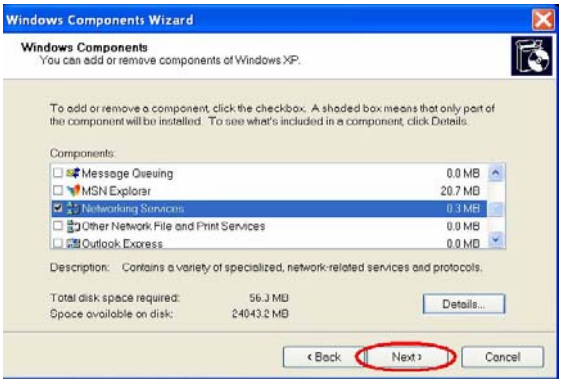

Windows Components Wizard
Windows Components
You can add or remove components of Windows XP.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Message Queuing 0.0 MB
MSN Explorer 20.7 MB
Networking Services 0.3 MB
Other Network File and Print Services 0.0 MB
Outlook Express 0.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 56.3 MB
Space available on disk: 24043.2 MB
Details...
< Back
Next >
Cancel

Figure 12

Step 6: After about one minute the UPnP installation will be done, and choose **Finish** to close it.

See Figure13.

Windows Components Wizard
Completing the Windows Components Wizard
You have successfully completed the Windows Components Wizard.
To close this wizard, click Finish.
Finish

Figure 13

3. Turn on Services

After installation, we should turn on the relative services to start the UPnP protocol. The following procedures will teach you how to do it.

Step 1: From the **Start** menu, point to **Settings**, and then click **Control Panel**. See Figure14.

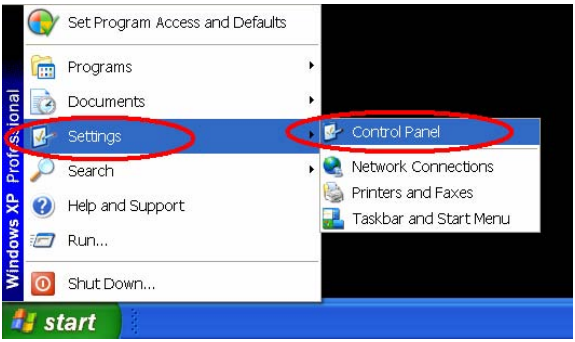


Figure 14

Step 2: When **Control Panel** appears, double-click the **Administrative Tools** icon. The **Administrative Tools** dialog box appears. See Figure15.

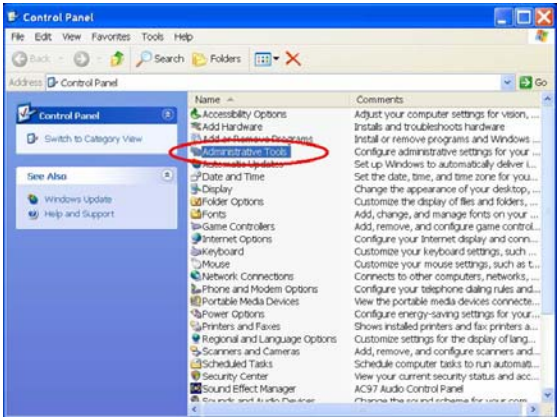


Figure15

Step 3: Click the **Services** icon in the **Administrative Tools** dialog box. See Figure16.

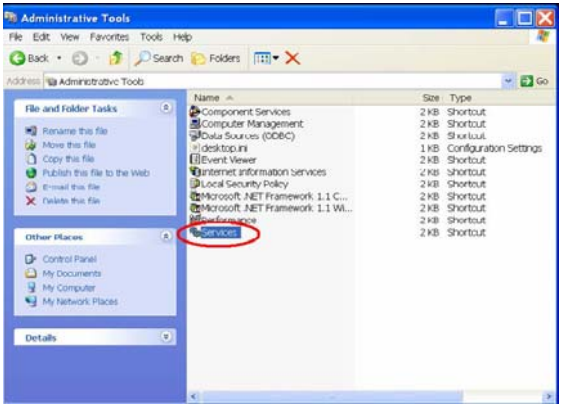


Figure16

Step 4: When the **Services** dialog box shows up, double click the **SSDP Discovery Service icon**. See Figure17.

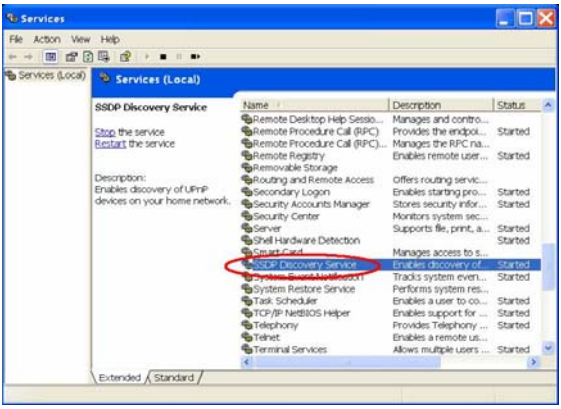

Services
File Action View Help
Services (Local)
Services (Local)
SSDP Discovery Service
Stop the service
Restart the service
Description:
Enables discovery of UPnP devices on your home network.
Name
Description
Status
Remote Desktop Help Sessio... Manages and contro...
Remote Procedure Call (RPC) Provides the endpoi... Started
Remote Procedure Call (RPC)... Manages the RPC na...
Remote Registry Enables remote user... Started
Removable Storage
Routing and Remote Access Offers routing servic...
Secondary Logon Enables starting pro... Started
Security Accounts Manager Stores security infor... Started
Security Center Monitors system sec...
Server Supports file, print, a... Started
Shell Hardware Detection Started
Smart Card Manages access to s...
SSDP Discovery Service Enables discovery of... Started
System Event Notification Tracks system even... Started
System Restore Service Performs system res...
Task Scheduler Enables a user to co... Started
TCP/IP NetBIOS Helper Enables support for ... Started
Telephony Provides Telephony ... Started
Telnet Enables a remote us...
Terminal Services Allows multiple users ... Started
Extended
Standard

Figure17

Step 5: Choose **Automatic** in the **Startup type**, and click **OK** to start it. See Figure18.

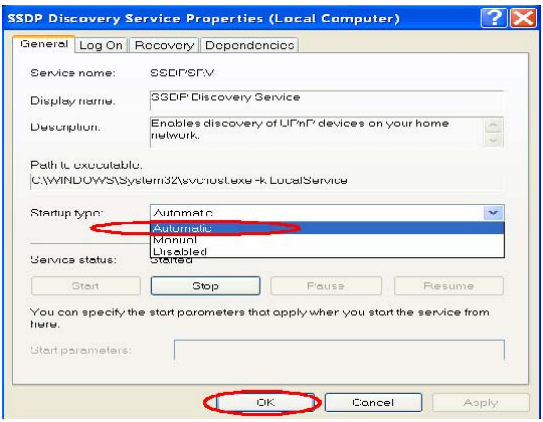


Figure18

Step 6: When the **Services** dialog box appears again, double click the **Universal Plug and Play Device Host** icon. See Figure19.

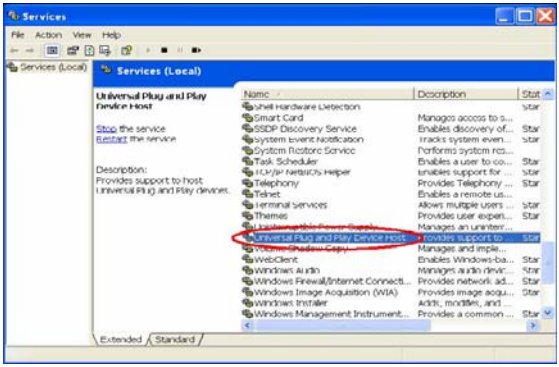


Figure19

Step 7: Choose **Automatic** in the Startup type, press the **Start** button, and click **OK** to start it.

See Figure20.

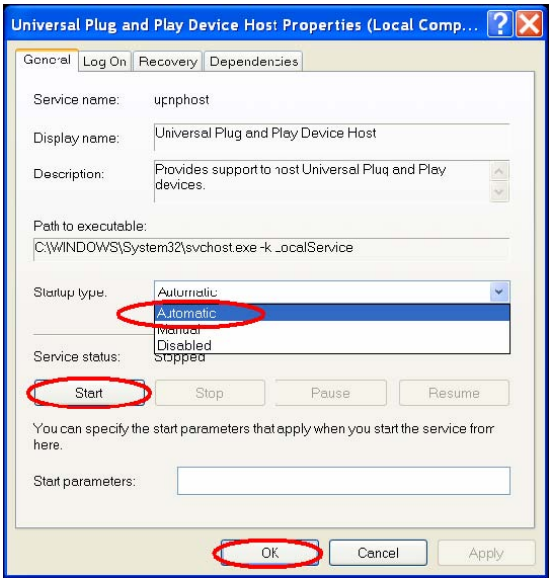


Figure20

Step 8: Restart your system.

4. Scan IP camera through My Network Place

After your installation and starting services, the UPnP protocol will take effect. You can scan all IP cameras in My Network Place like Figure21 below.

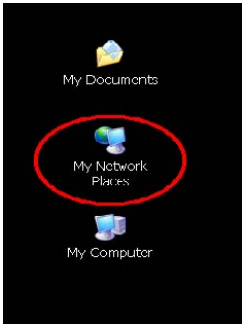


Figure21

Just double click the **UPnP MPEG4 IP camera** the video live stream will pop up automatically without assigning any IP address in Microsoft Internet Explorer®.

APPENDIX 3. –The ARP function

Setting the IP Address

The Ethernet interface on the IP camera has a default IP address (192.168.1.168) that most likely needs to be changed to make it work on your local network. You need to acquire a unique IP address (ask your network administrator). For the initial setting of the IP address the IP camera needs to be connected to the same network segment as your client, and the IP address can then be configured by using a combination of ARP and ping command.

Use any of the following ways to set the IP address within thirty seconds after booting the IP camera (re-cycle the power). Setting IP using the method below can only be done on the Ethernet interface.

ARP and ping from Windows or MS-DOS:

The user can open the PC's MS-DOS windows from the WINDOWS 98 operation system, or open the PC's Command Prompt windows from either the WINDOWS 2000 or the WINDOWS XP operation system.

1. Start a DOS prompt window
2. Type the following in 30 seconds after the booting:

   arp -s <IP address> <Ethernet address>

   [**or** arp -s <IP address> < MAC address>]

   ping <IP address>

   Example:

   arp -s 192.168.1.100 00-0C-0C-00-00-01

   ping 192.168.1.100

   The IP address now is: 192.168.1.100.

ARP and ping from UNIX or GNU/Linux:

1. Start a shell
2. Type the following as superuser (root):

   arp -s <IP address> <Ethernet address>

   [**or** arp -s <IP address> < MAC address>]

   ping <IP address>

   Example:

   arp -s 192.168.1.100 00-0C-0C-00-00-01

   ping 192.168.1.100

The device responds to the ping in the examples above if the new address was configured. Note, this method will set the IP address permanently.

Note: The default account and password after the reset are admin and 9999.

APPENDIX 4. –Register as a DDNS member

The DDNS（dynamic domain name system） is a function which is provided by an American company. Please refer to www.dyndns.com. This chapter provides the user with the basic instructions on how to register a free DDNS service.

Registering for a DDNS

Enter the URL www.dyndns.com. In the upper right-hand corner of the main page, where there is an item, ”Create Account”, as shown in Figure 1.

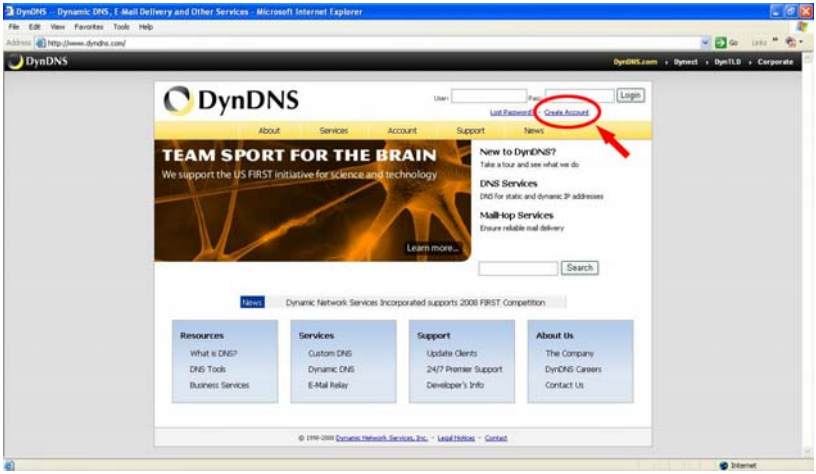


Figure 1

Create an account

After clicking ”Create Account”, you will enter the Create Account page. Please complete the form at the bottom of the page to create your account. You will receive an e-mail containing instructions to activate your account. If you do not follow the directions within 48 hours, you will need to recreate your account.

Set up the DDNS

After creating the account successfully, please enter your user name and password in the upper right-hand corner of the main page to login, as shown in Figure 2.

After you login successfully, a text will appear saying “My Services”, as shown in Figure 3.

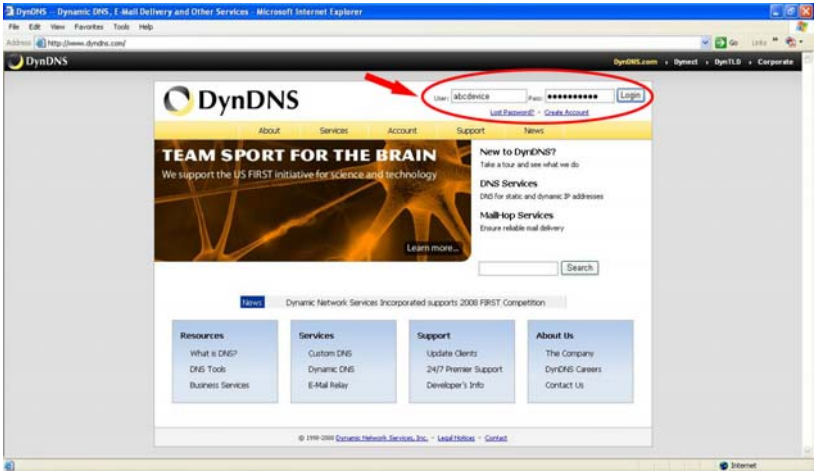


Figure 2

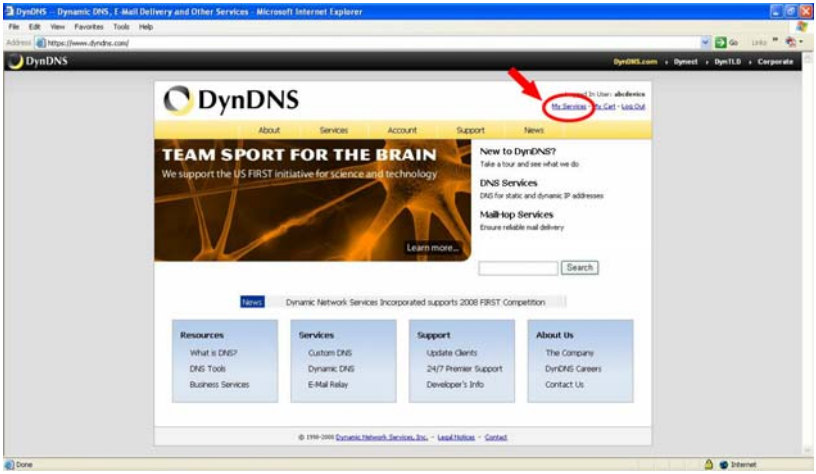


Figure 3

Click “My Services” to enter the service page. Please click the “Add Host Service” item which is below the ”My Hosts“ item, as shown in Figure 4.

Click “Add Host Service”, and its service items will appear. The Add Dynamic DNS Host item helps to add a new DDNS. Each member may have only one free account, and one free account can have only five DDNS.

Click Add Dynamic DNS Host to enter the DDNS setting page as shown in Figure 5.

Figure 4

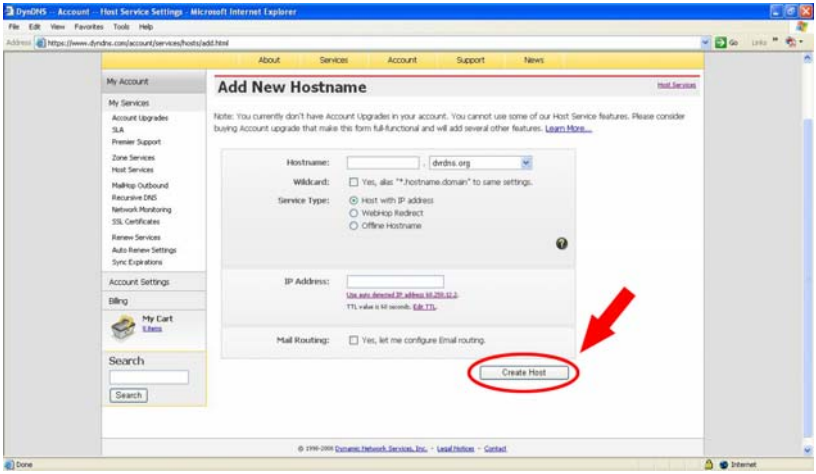


Figure 5

All we have to set in this page is the “Hostname” item. The user can choose a Sub Hostname as s/he likes from the right-hand side of the Hostname’s drop-down list.

NOTE: You don’t have to set the “IP Address” in the same format as the camera’s IP Address. It will renew the IP Address automatically.

After finishing the setting, please press the “Create Host” button as shown in Figure 5.

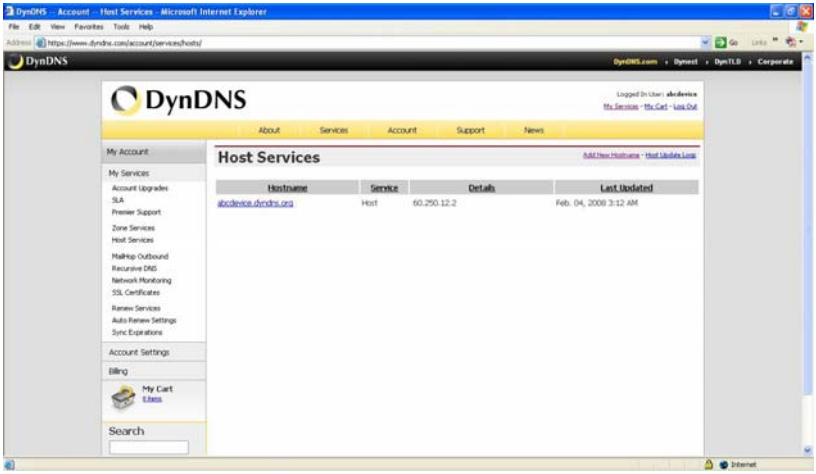

DynDNS -- Account -- Host Services - Microsoft Internet Explorer
File Edit View Favorites Tools Help
https://www.dyndns.com/account/services/hosts/
DynDNS
DynDNS.com • Dynect • DynTLD • Corporate
DynDNS
Logged In User: abcdevice
My Services - My Cart - Log Out
About
Services
Account
Support
News
My Account
My Services
Account Upgrades
SLA
Premier Support
Zone Services
Host Services
Mailhop Outbound
Recursive DNS
Network Monitoring
SSL Certificates
Renew Services
Auto Renew Settings
Sync Expirations
Account Settings
Billing
My Cart
0 Items
Search
Host Services
Add New Hostname - Host Update Logs
Hostname
Service
Details
Last Updated
abcdevice.dyndns.org
Host
60.250.12.2
Feb. 04, 2008 3:12 AM
Internet

Figure 6

APPENDIX 5. –MPEG4 Bit Rate Lookup Table of IP Camera

1. When frame rate is higher than 15 frames/second (15 is not including):

	Highest	High	Medium	Low	Lowest
FULL D1	3	2.5	2	1.5	1
VGA	2.63	2.25	1.75	1.31	0.88
Half D1	1.5	1.25	1	0.75	0.5
Half VGA	1.31	1.13	0.88	0.67	0.44
CIF	0.75	0.63	0.5	0.38	0.25
QVGA	0.66	0.56	0.44	0.38	0.22
ZOOM * 2	3	2.5	2	1.5	1
ZOOM * 3	3	2.5	2	1.5	1
ZOOM * 4	3	2.5	2	1.5	1

2. When frame rate is lower or equal to 15 frames/second:

	Highest	High	Medium	Low	Lowest
FULL D1	2.25	1.94	1.5	1.13	0.75
VGA	1.94	1.69	1.31	0.98	0.66
Half D1	1.13	0.94	0.75	0.56	0.38
Half VGA	0.98	0.84	0.66	0.49	0.33
CIF	0.56	0.47	0.44	0.28	0.19
QVGA	0.5	0.44	0.34	0.25	0.19
ZOOM * 2	2.25	1.88	1.5	1.125	0.75
ZOOM * 3	2.25	1.88	1.5	1.125	0.75
ZOOM * 4	2.25	1.88	1.5	1.125	0.75

***The unit is in Mbps/second.**

APPENDIX 6. –FAQ

1. How to disable the DHCP function and use a static IP instead?

A：Turn up the “DIP SWITCH” from “3” to “4” and change the relative network settings, the IP Address, NetMask and Gateway on the image web page.

2. I’ve set the function of “Motion Detection” but it doesn’t seem to work.

A：Check if “Motion range” and “Sensitivity” have been set before activating the function.

3. My AVI files cannot be displayed. What can I do to display the files?

A：Please visit “http://www.morgan-multimedia.com/” to download “Morgan M-JPEG codec” and install it, and then check the selection of the “IJP Core”.

4. How to turn on/off the OSD (on screen display) on/off on the IP Camera?

A：Visit the homepage - tailpage.htm of the device, and select "ON" or "OFF" in the OSD column.

Example: suppose the IP address of the device is 192.168.1.168

Type in http://192.168.1.168/tailpage.htm (a registration is needed) and select "ON" or "OFF" in the OSD column.

WARNING: Please write down the IP address of the device before you turn off the OSD.